

FIG.1

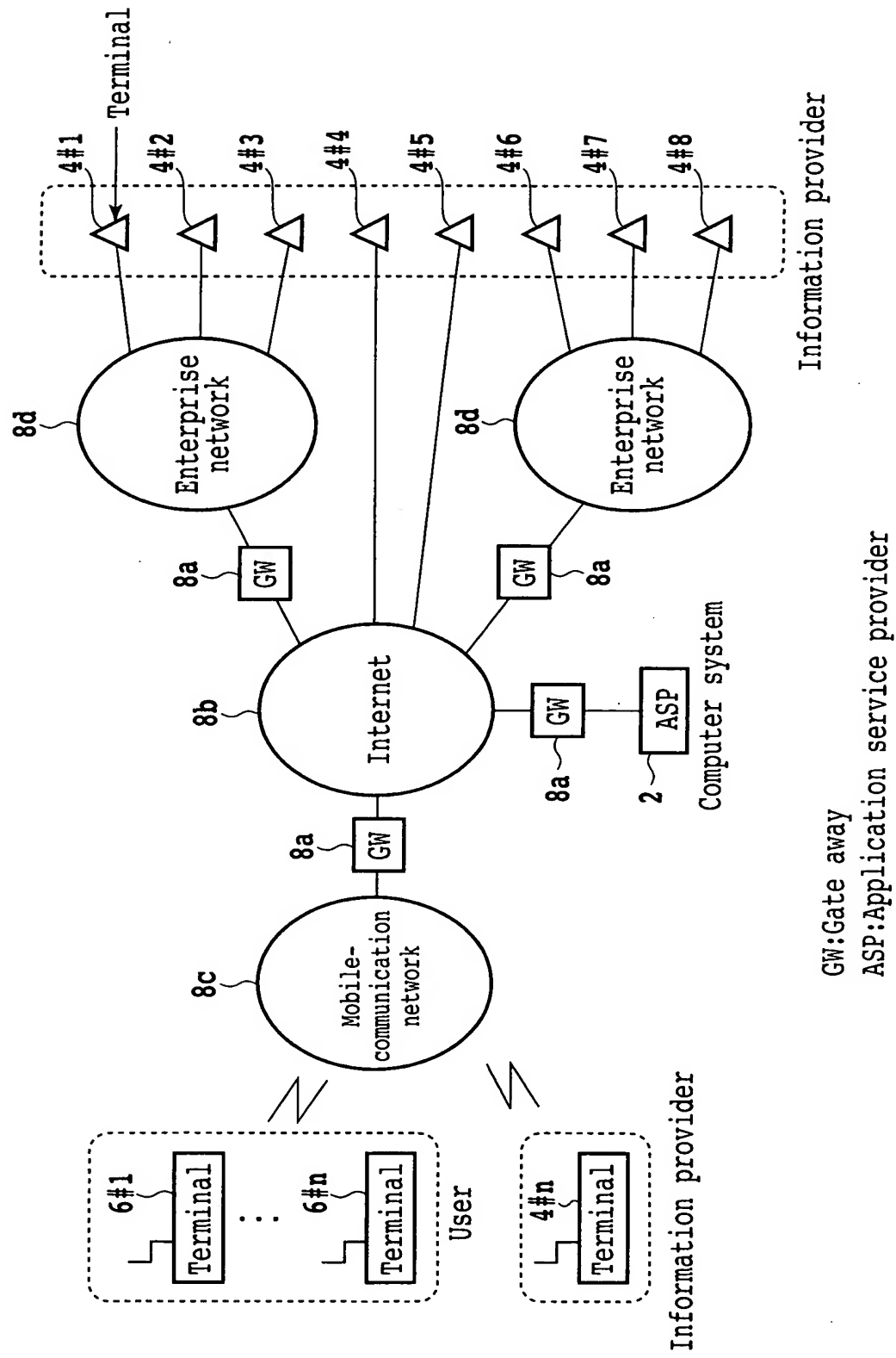


FIG. 2

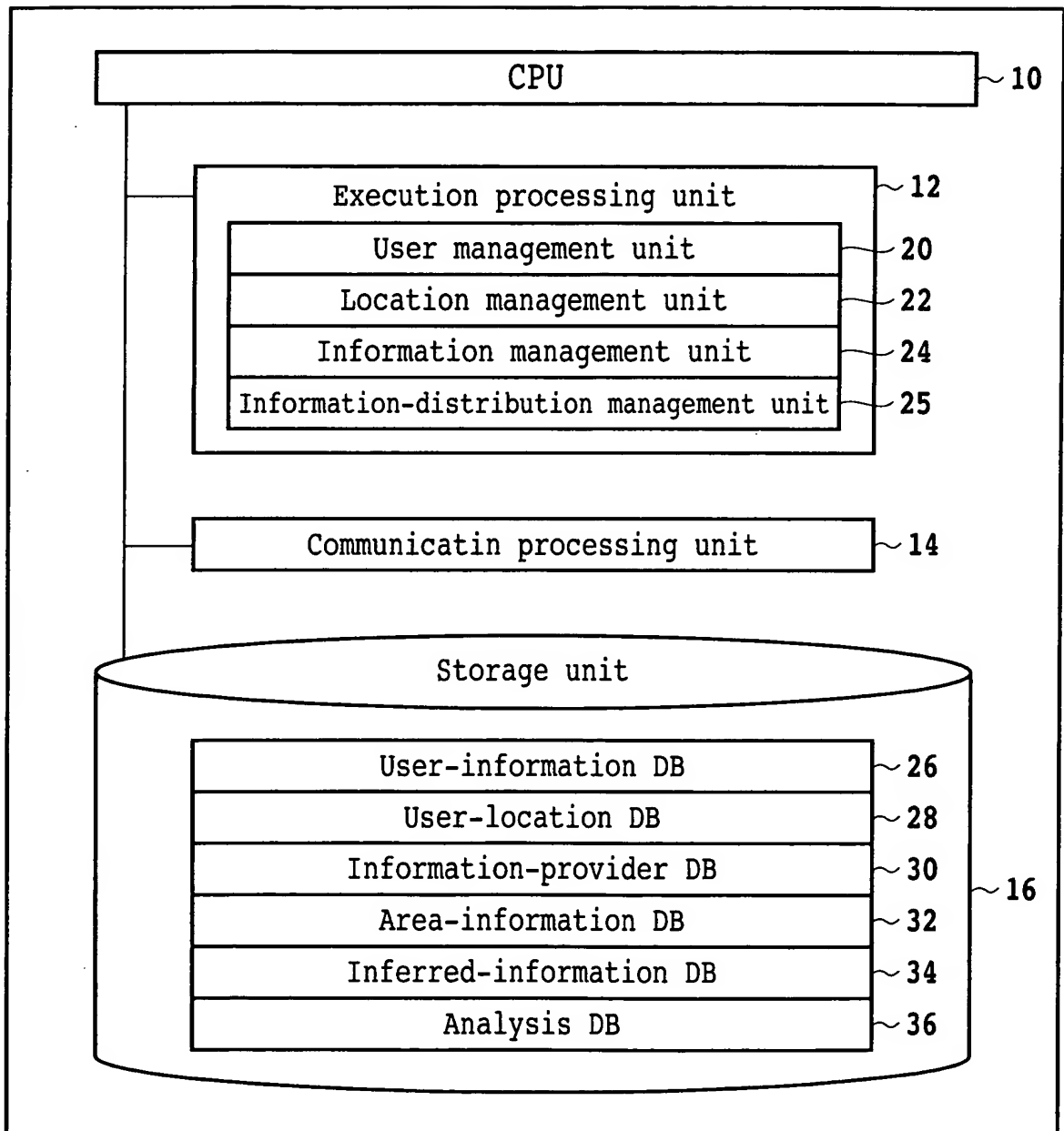


FIG.3A

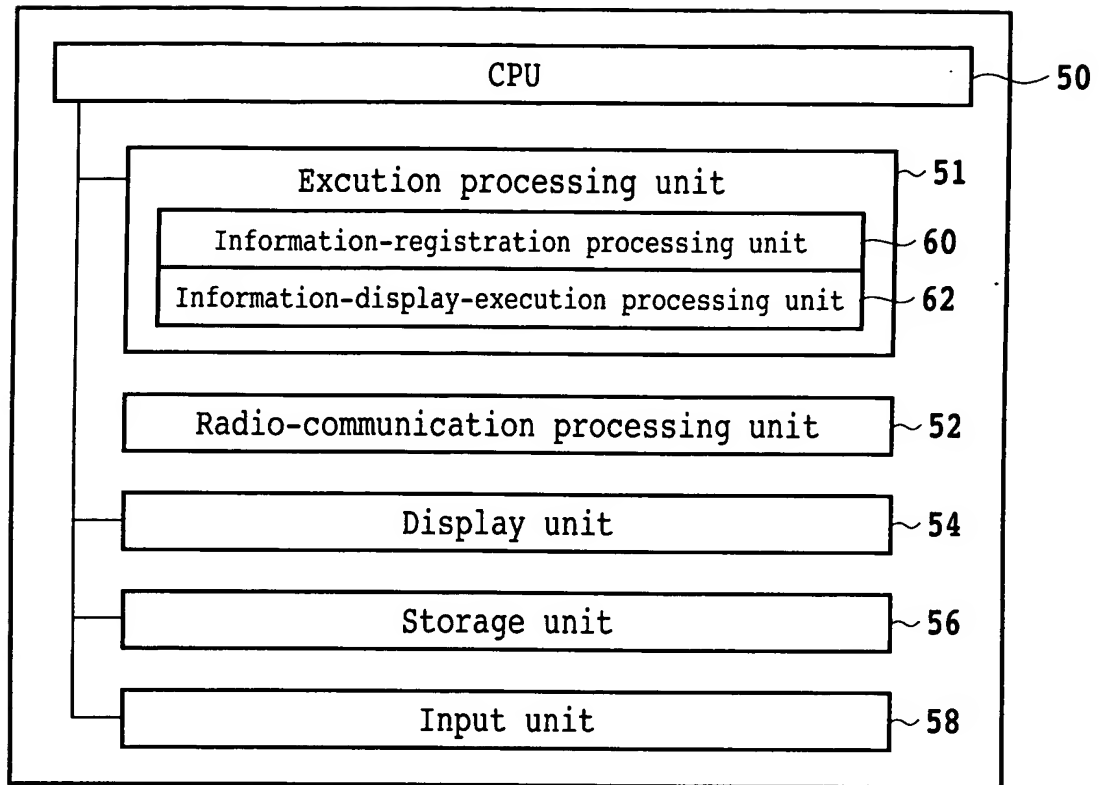


FIG.3B

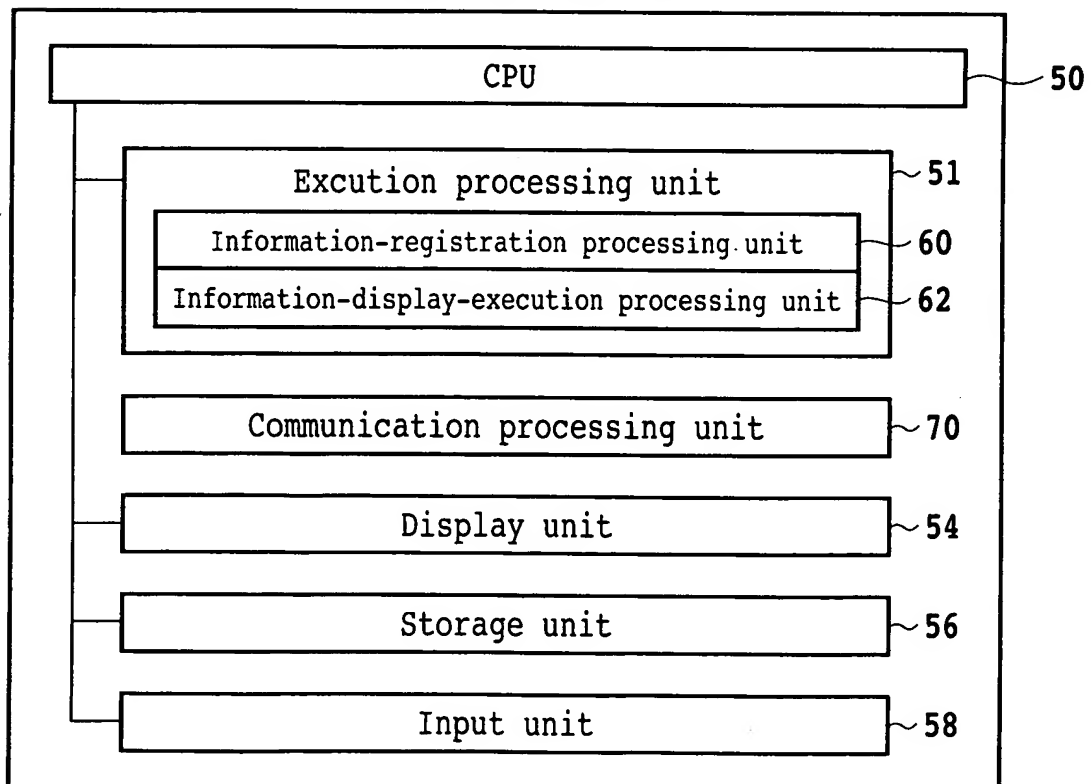


FIG.4A

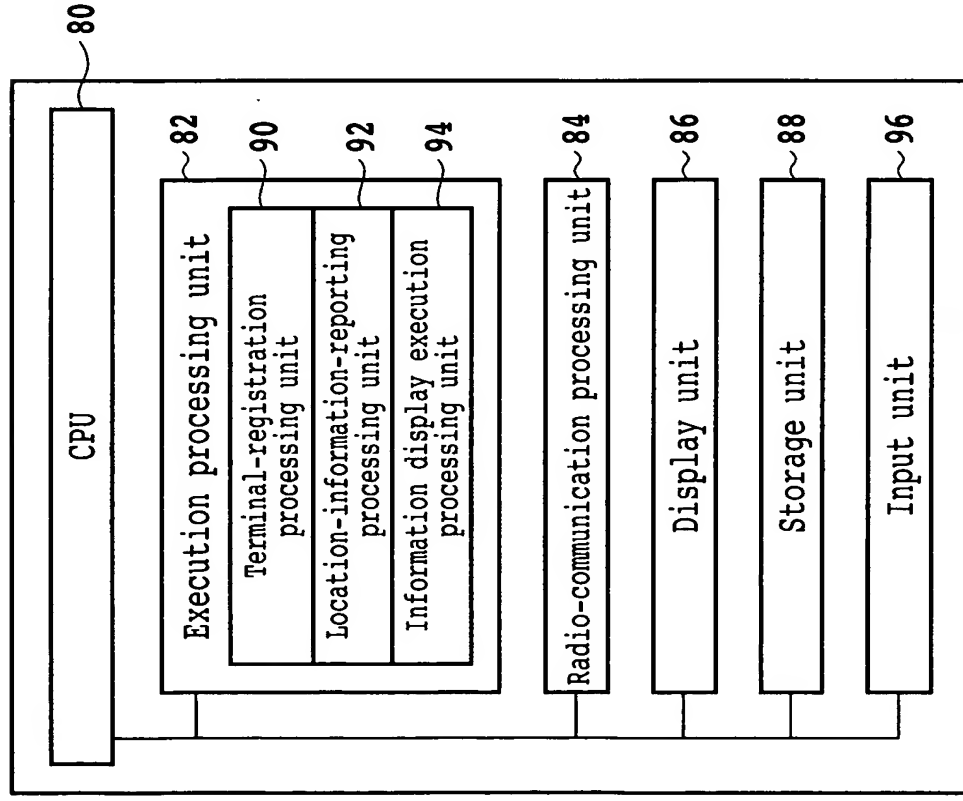


FIG.4B

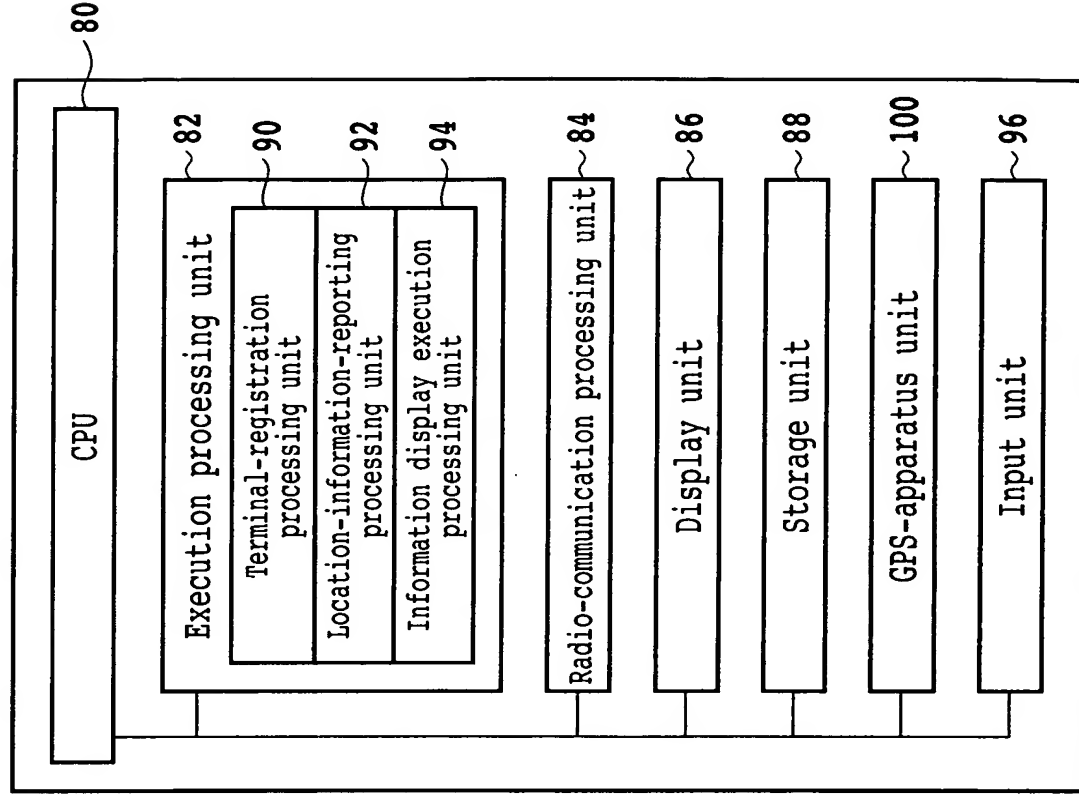


FIG. 5

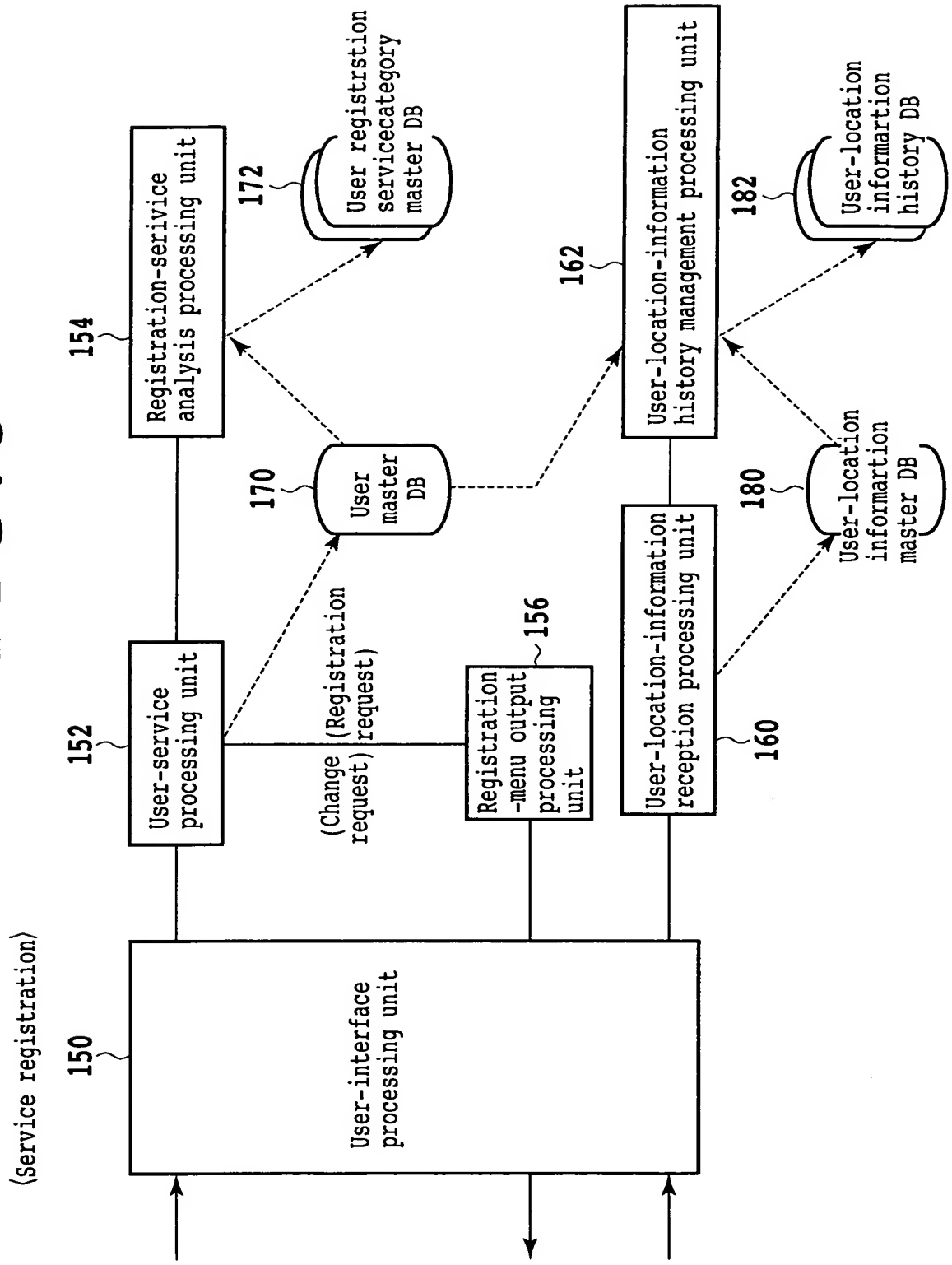


FIG. 6

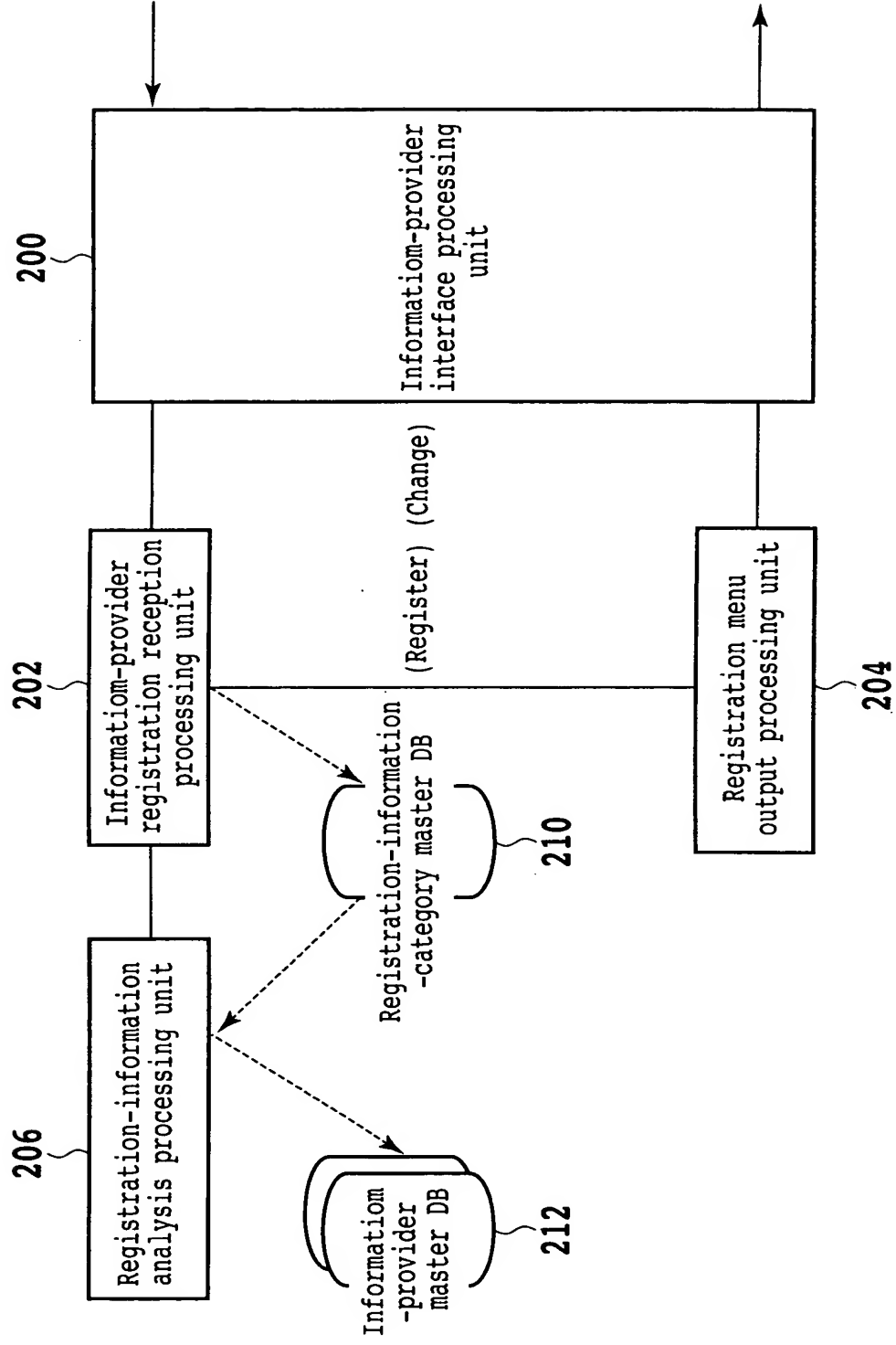


FIG. 7

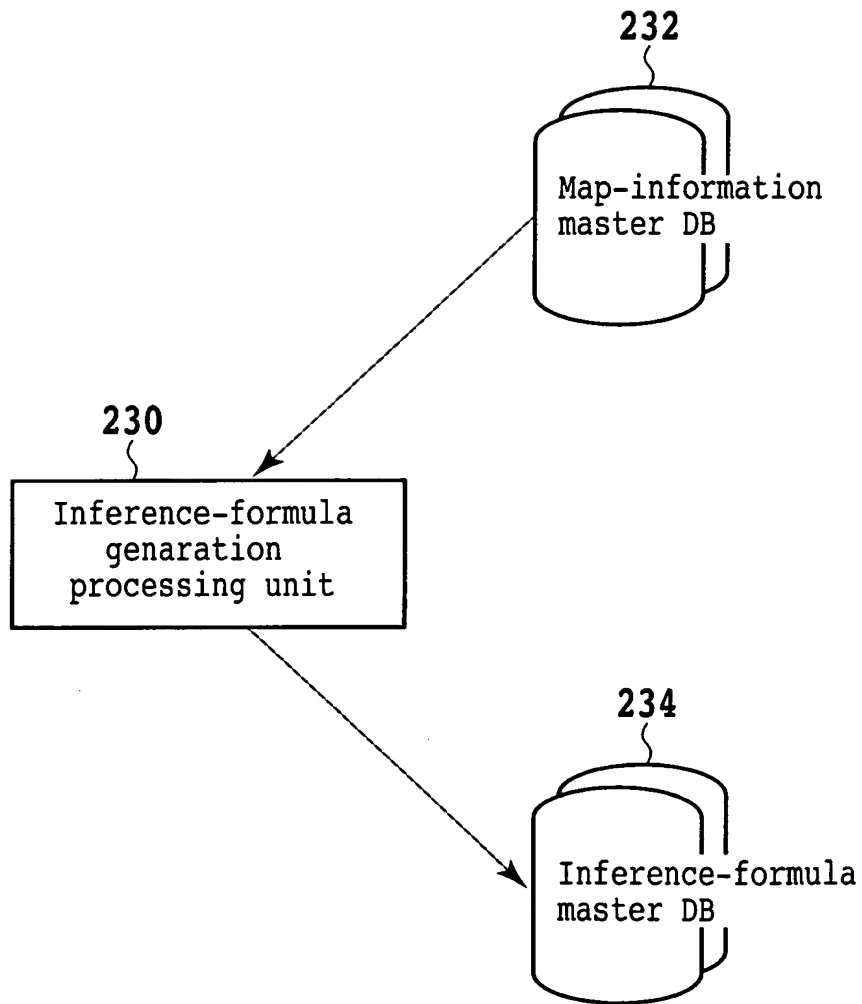


FIG. 8

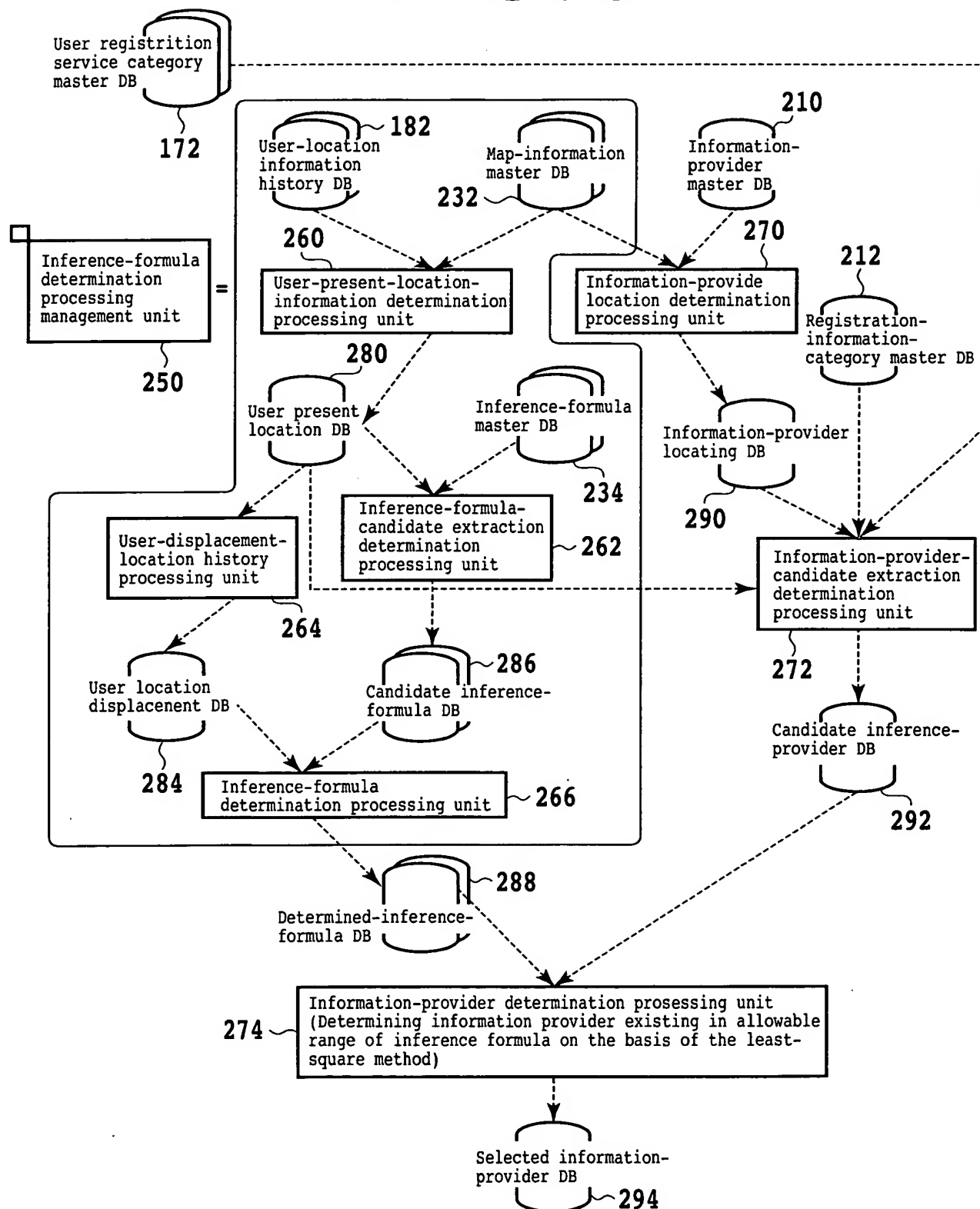


FIG. 9

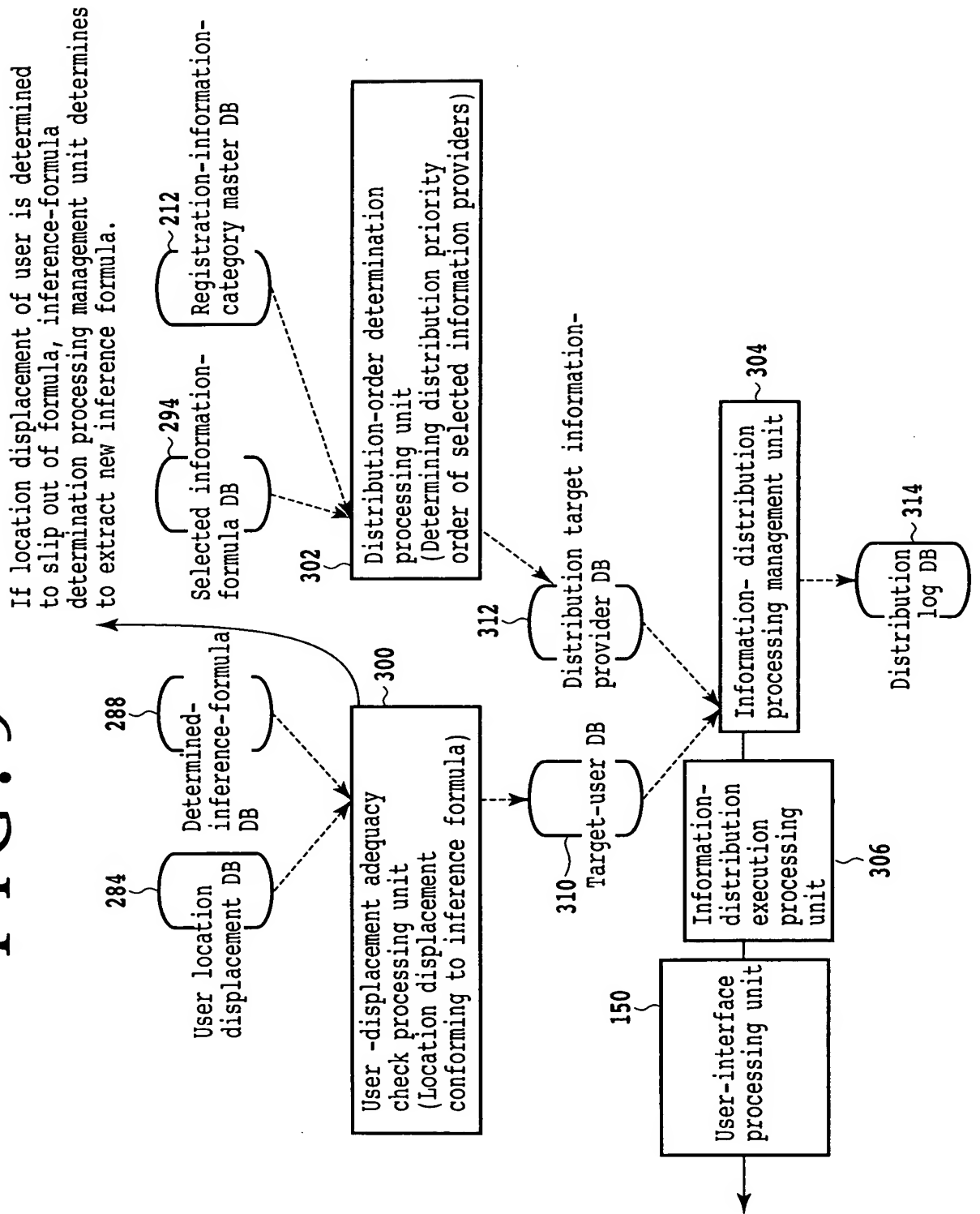


FIG. 10

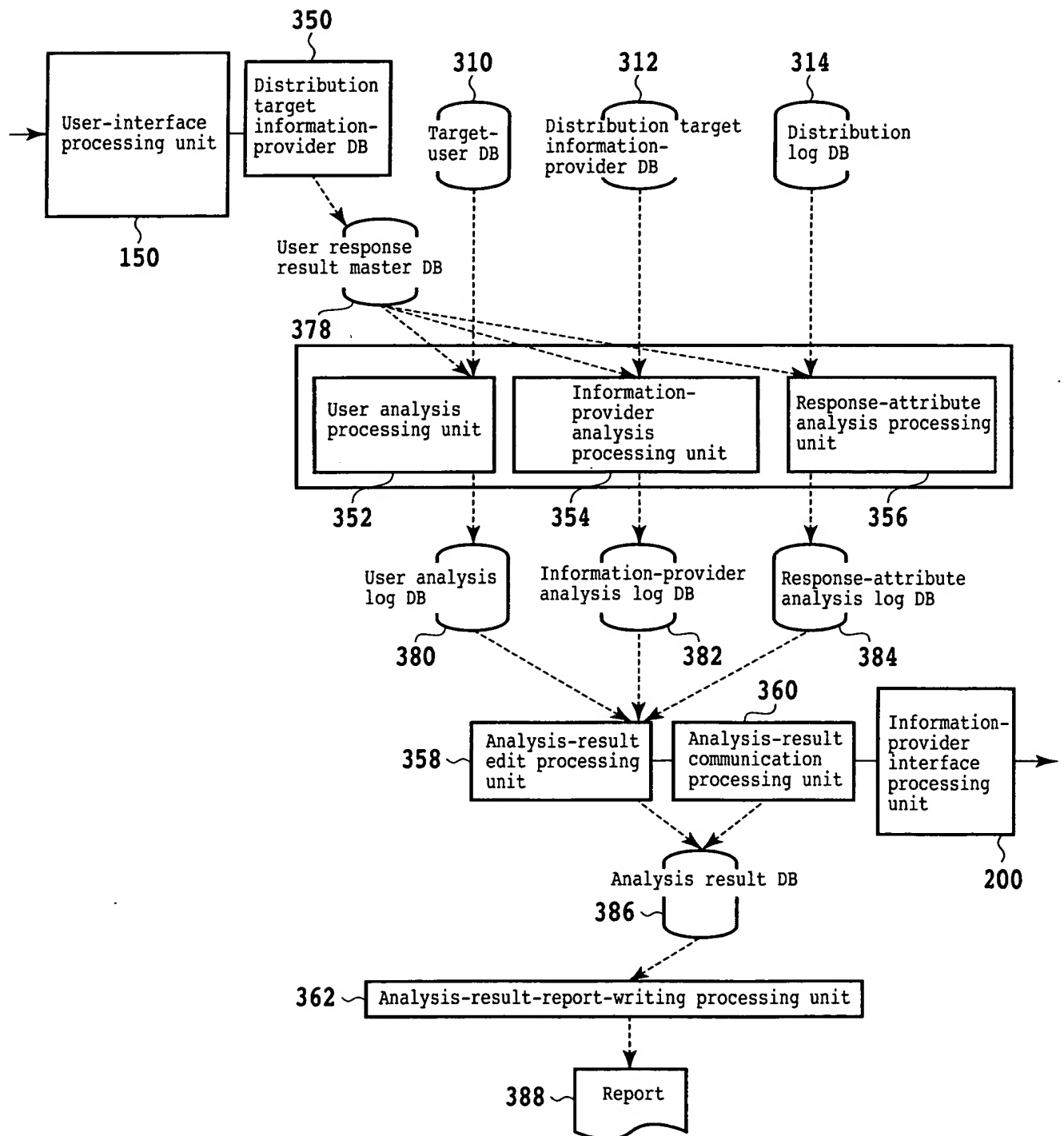


FIG.11

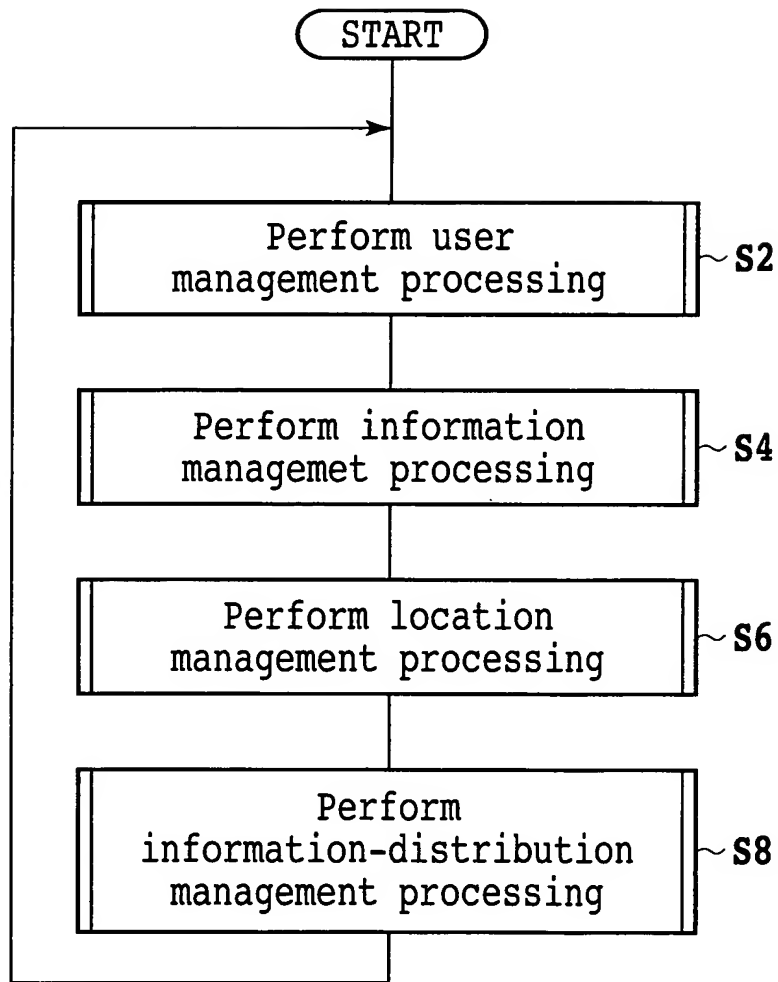


FIG. 12

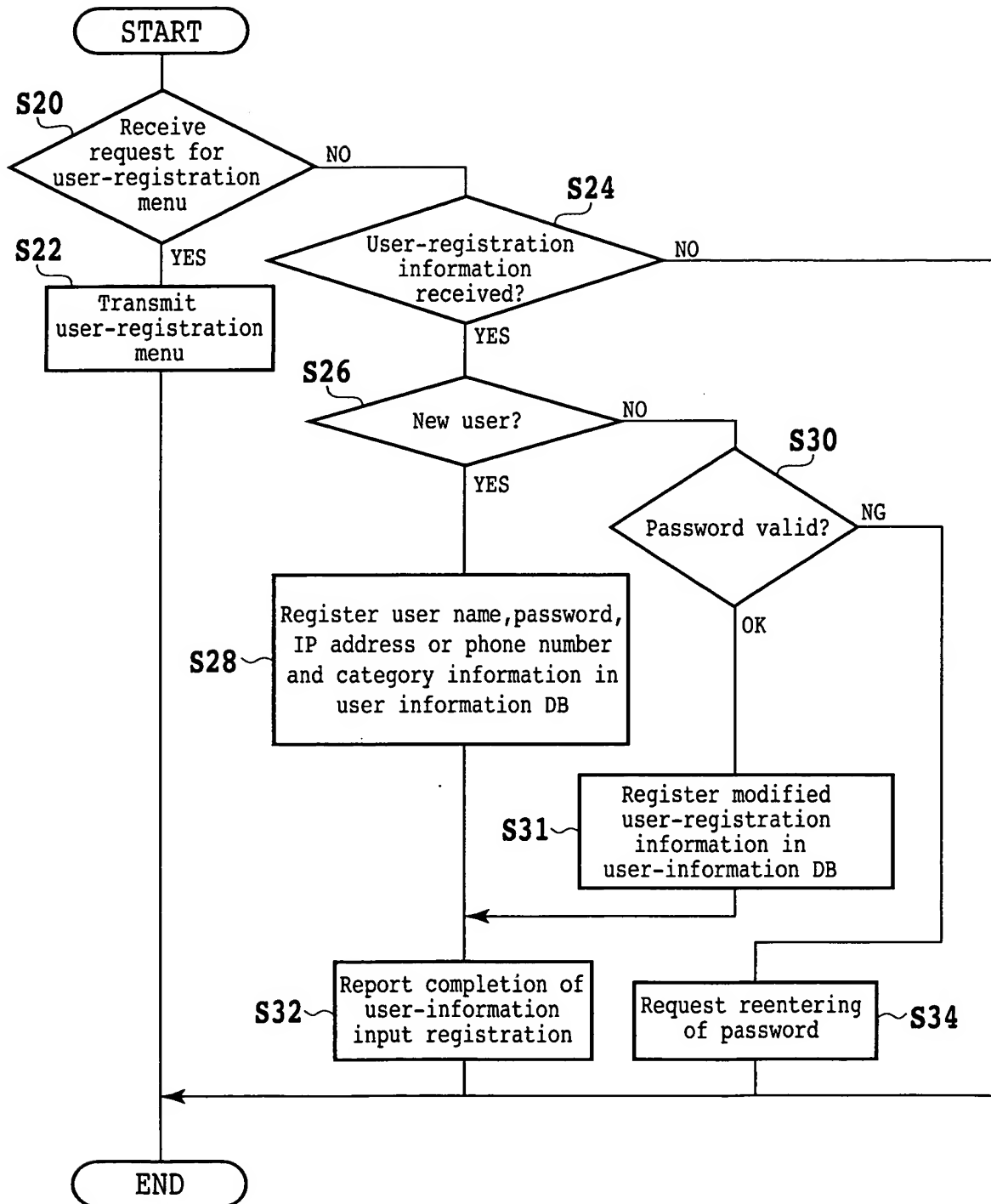


FIG. 13

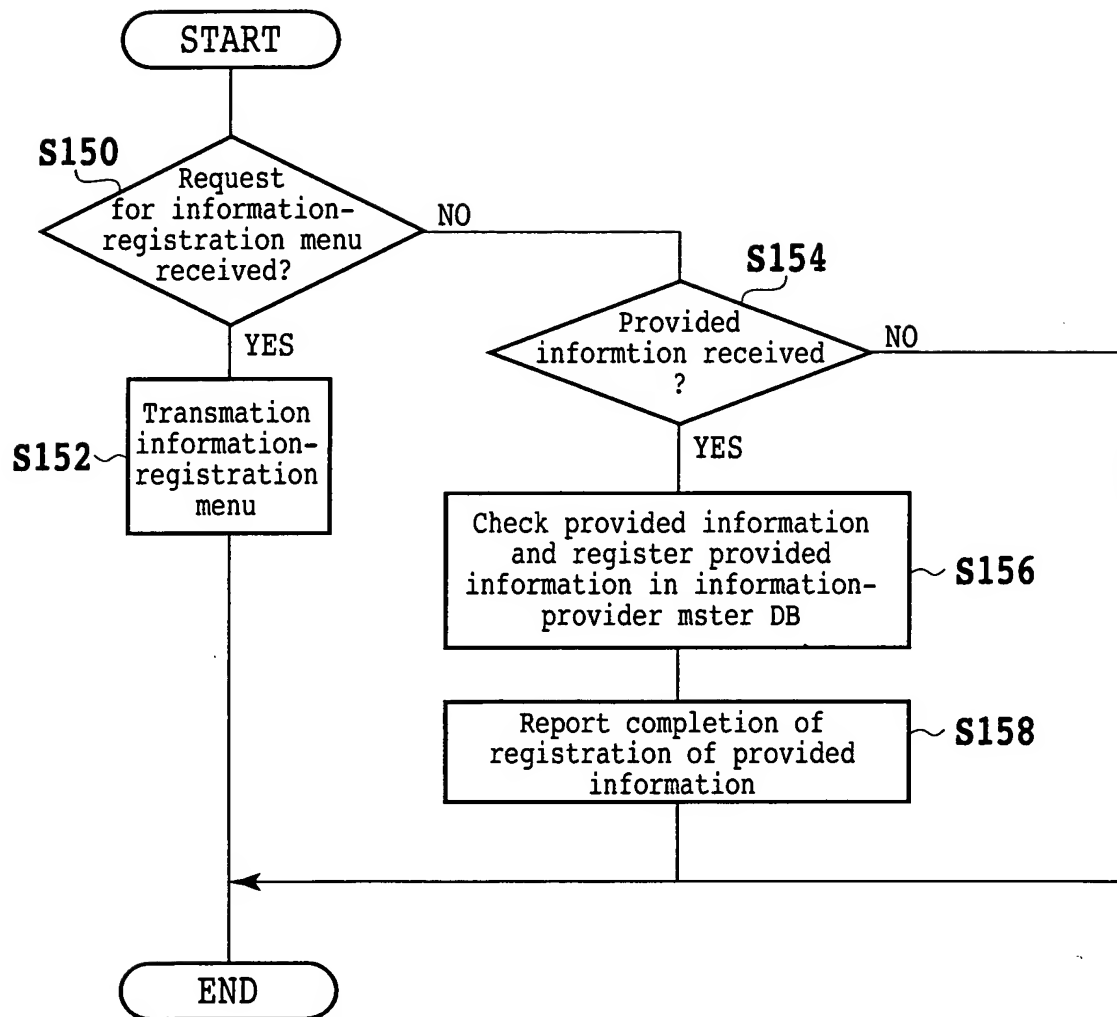


FIG. 14

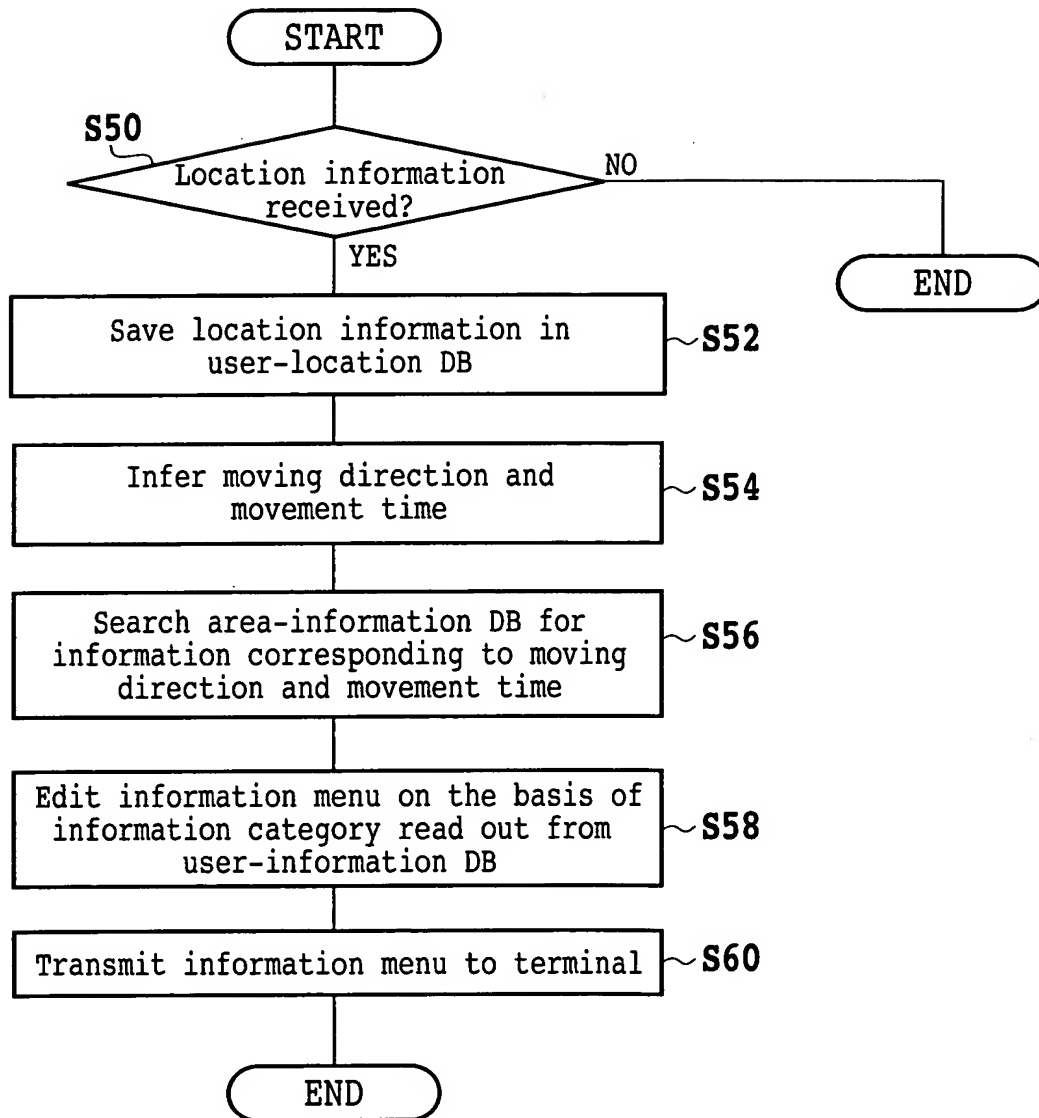


FIG. 15

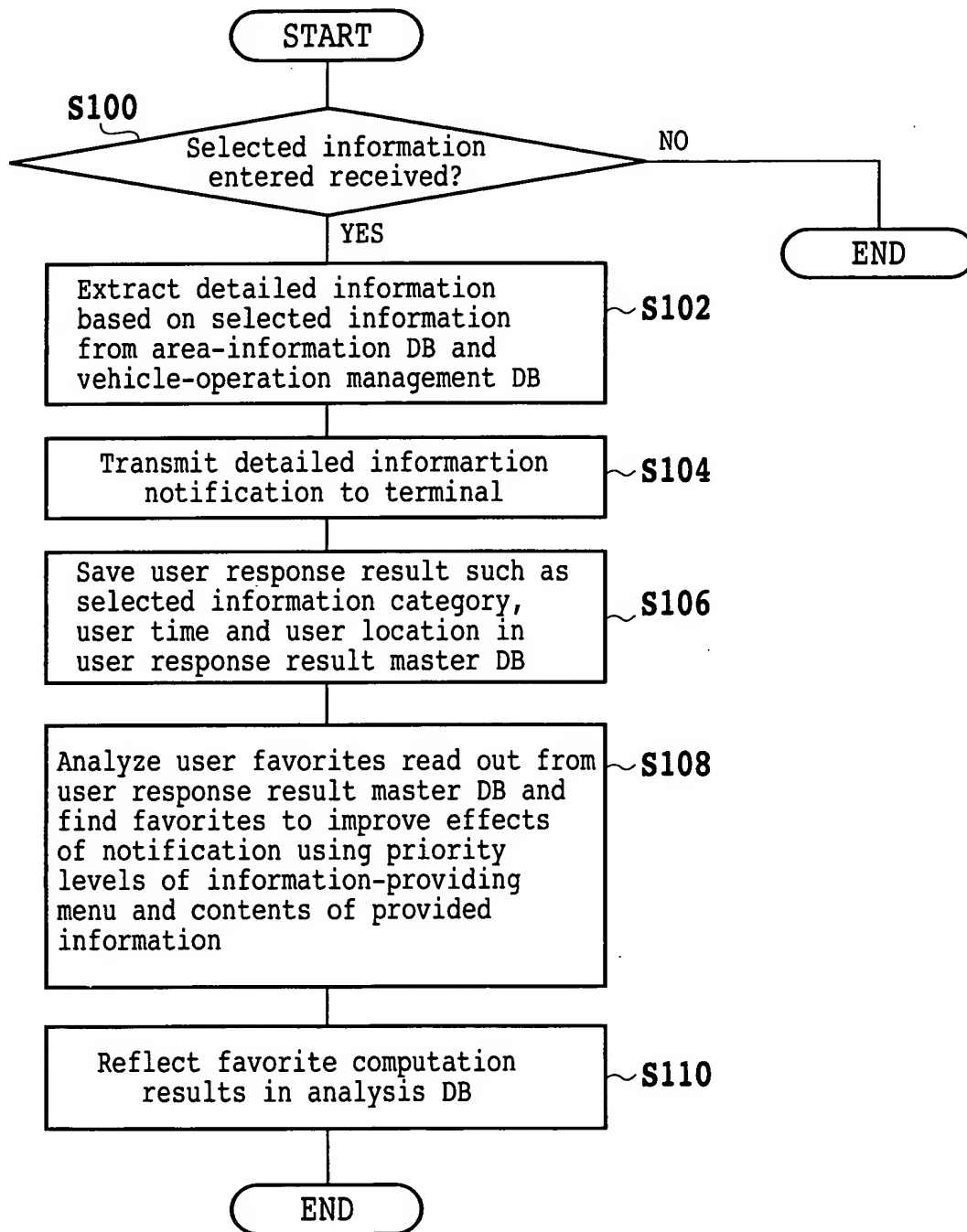


FIG.16

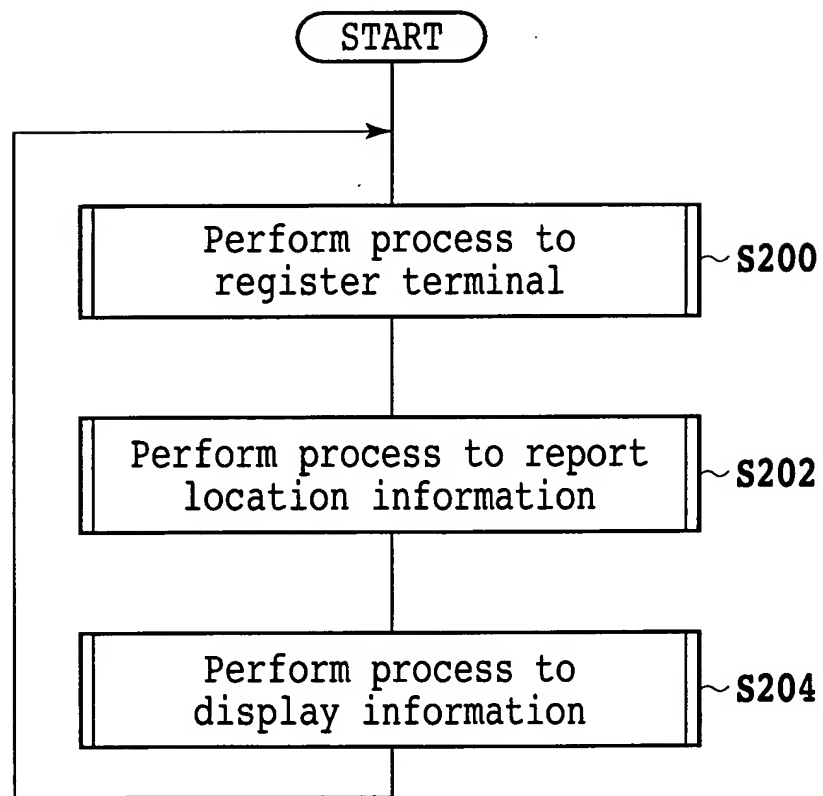


FIG.17

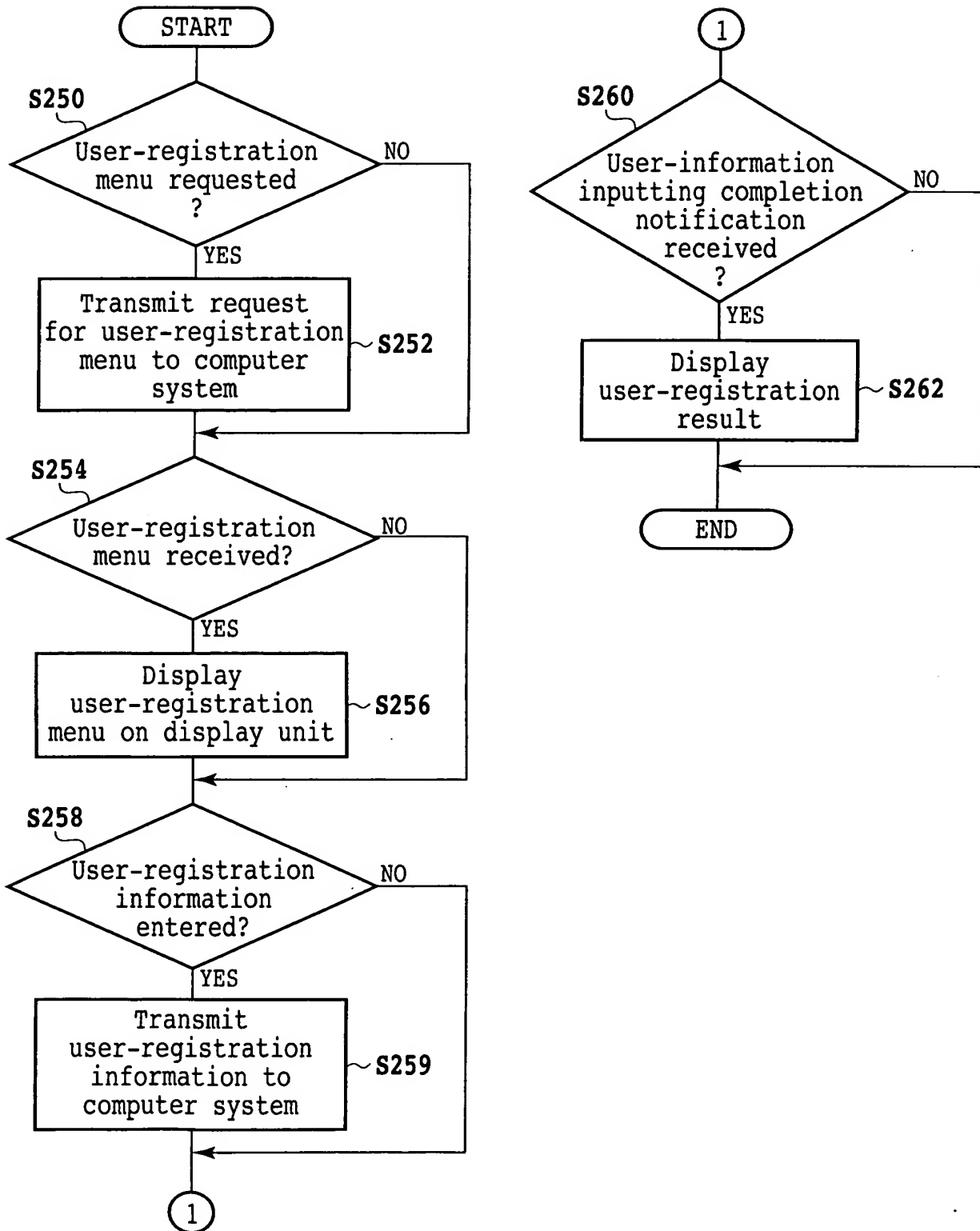


FIG. 18

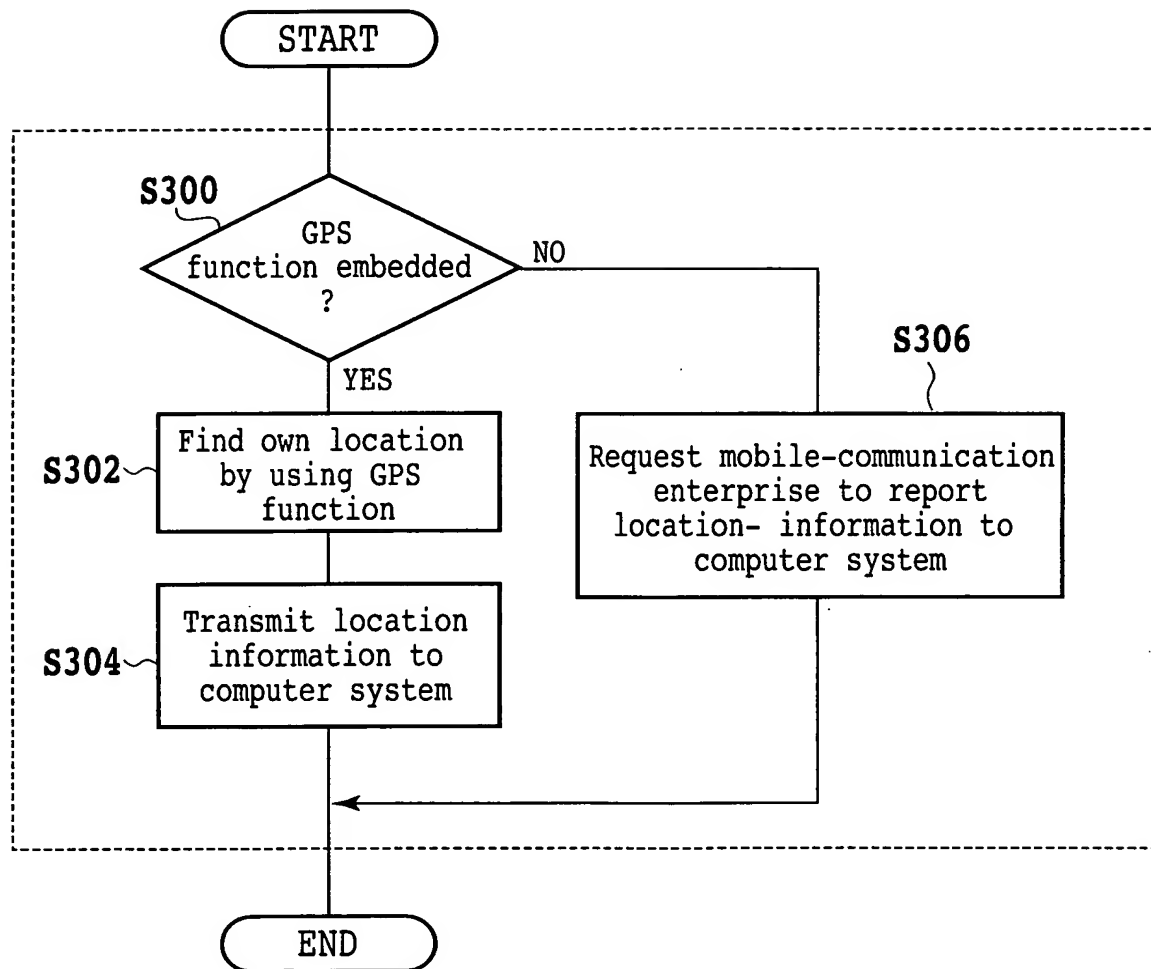


FIG. 19

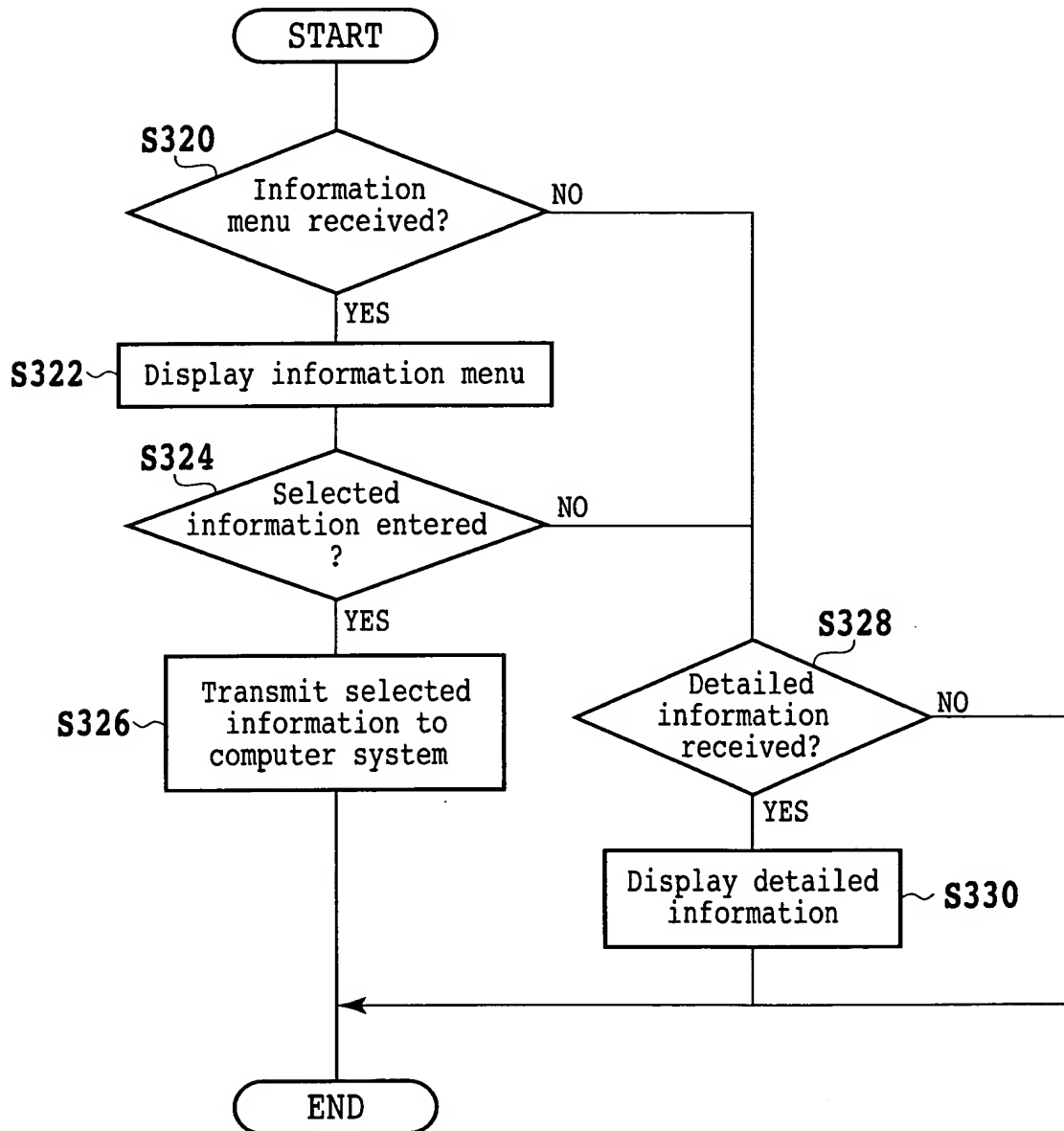


FIG. 20

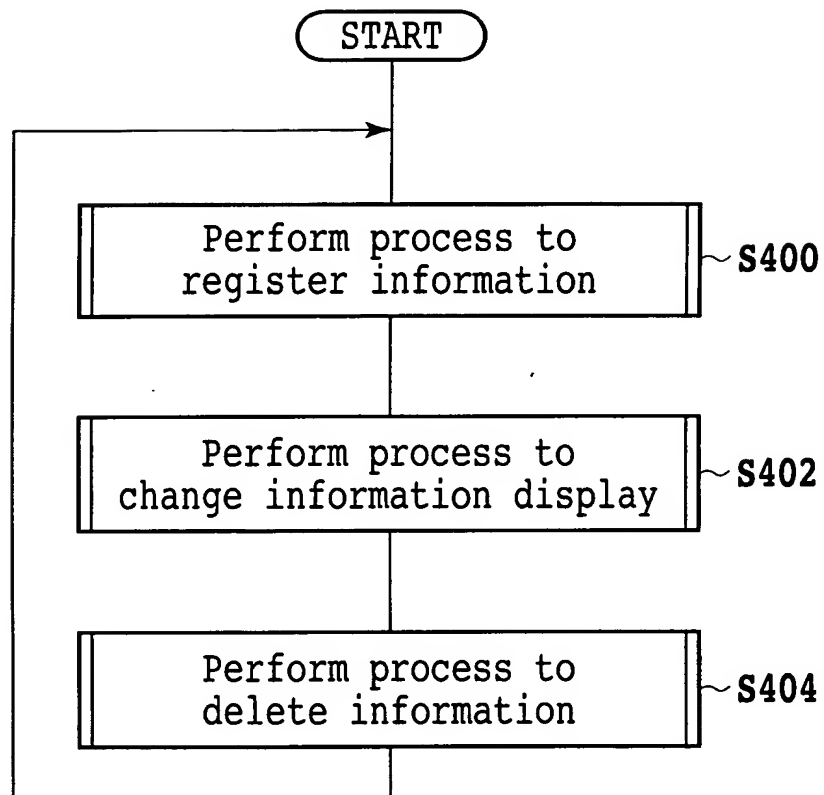


FIG.21

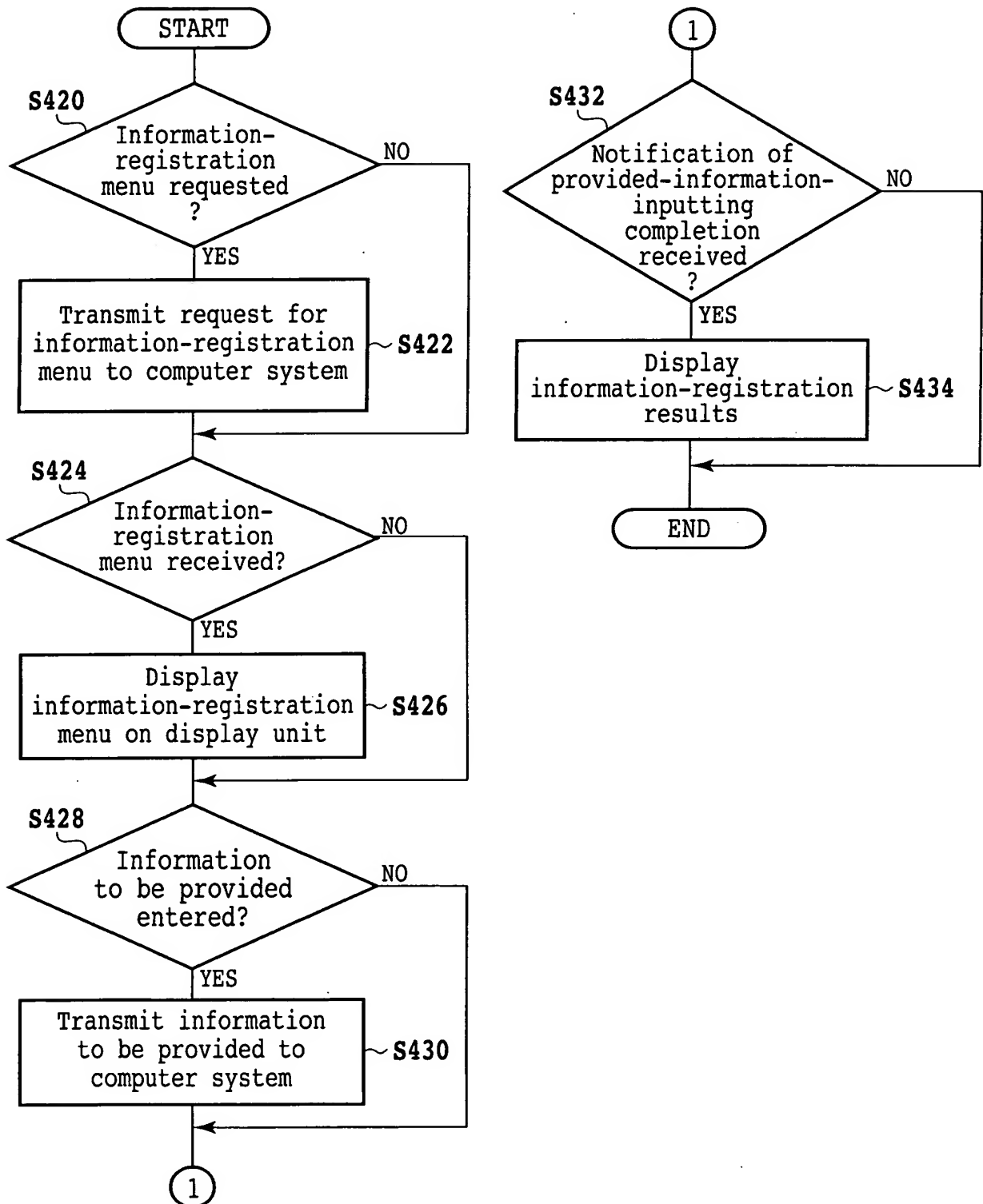


FIG.22

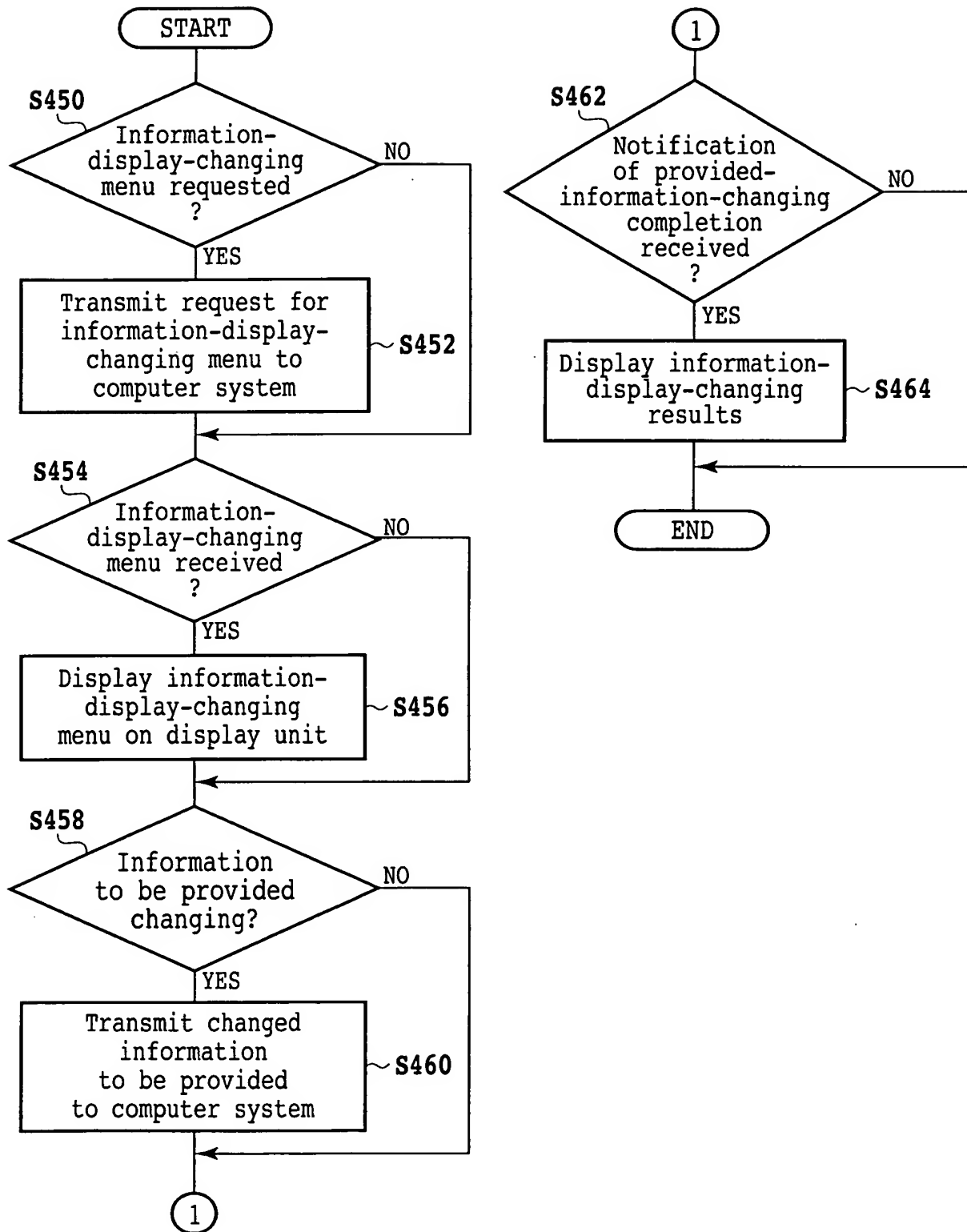


FIG.23

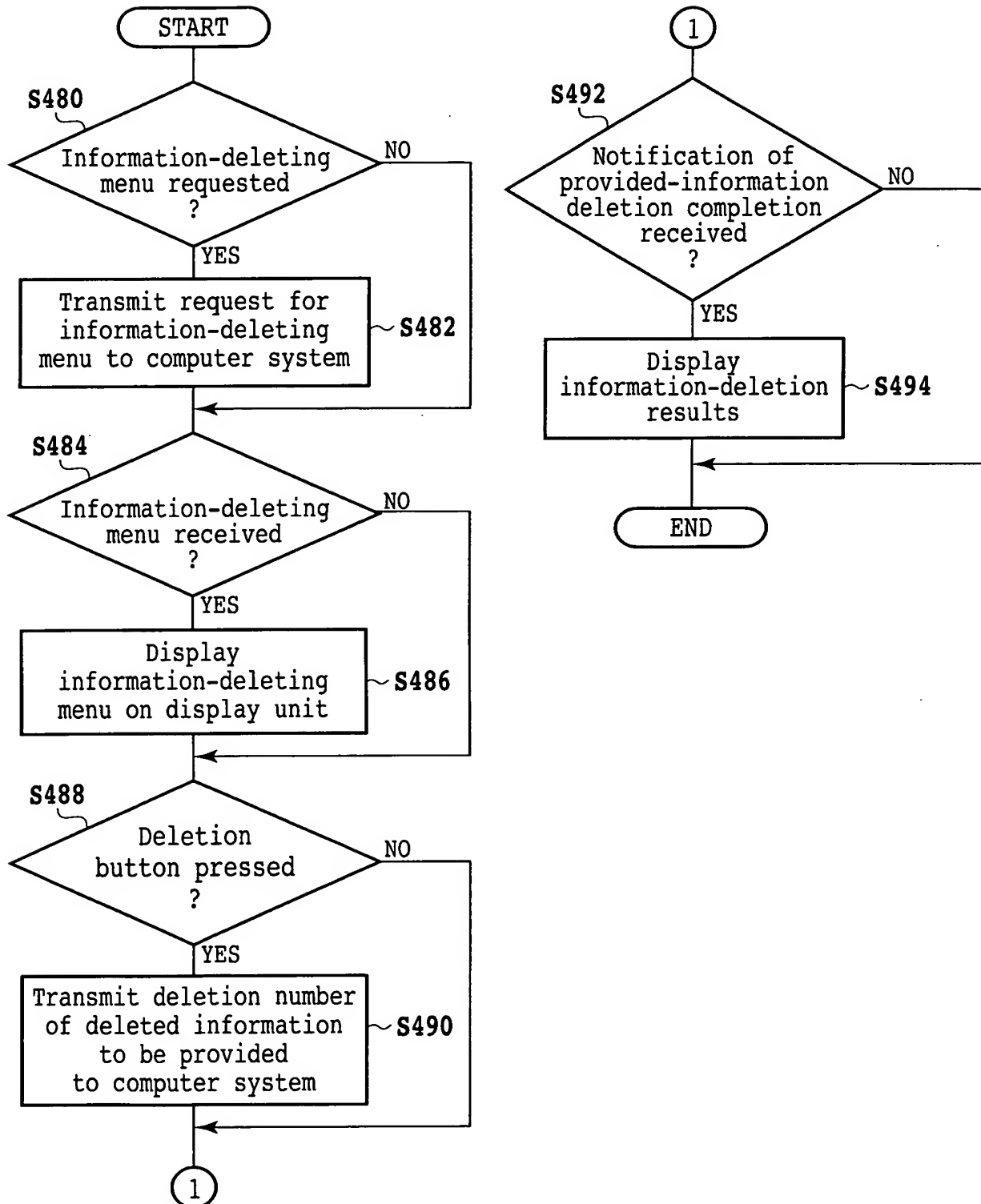


FIG.24A

Identification number (1)	IP address or phone number	User-registration menu
------------------------------	-------------------------------	---------------------------

FIG.24B

Identification number (2)	IP address or phone number	Completion information
------------------------------	-------------------------------	---------------------------

{0:Normal completion
1:Abnormal completion

FIG.24C

Identification number (3)	IP address or phone number	Information menu
------------------------------	-------------------------------	---------------------

FIG.24D

Identification number (4)	IP address or phone number	Detailed information
------------------------------	-------------------------------	-------------------------

FIG.24E

Identification number (5)	IP address or phone number	Moving-destination information
------------------------------	-------------------------------	-----------------------------------

FIG.25A

Requested identification number (1)	IP address or phone number
---	-------------------------------

FIG.25B

Requested identification number (2)	IP address or phone number	Password	Category information
---	-------------------------------	----------	-------------------------

FIG.25C

Requested identification number (3)	IP address or phone number	Location information (Longitude and latitude)	Time information
---	-------------------------------	---	---------------------

FIG.25D

Requested identification number (4)	IP address or phone number	Selection number
---	-------------------------------	---------------------

FIG.25E

Requested identification number (5)	IP address or phone number
---	-------------------------------

- 0:Register
 - 1:Start
 - 2:Change
 - 3:Stop
 - 4:Release
- 0:Normal
 - 1:Urgent

FIG.25F

Requested identification number (6)	IP address or phone number	Start/stop identification	Service-request level
---	-------------------------------	------------------------------	--------------------------

FIG.26A

Identification number (11)	IP address or phone number	Information-registration menu
----------------------------	----------------------------	-------------------------------

FIG.26B

Identification number (12)	IP address or phone number	Completion information
----------------------------	----------------------------	------------------------

{ 0:Normal completion
1:Abnormal completion

FIG.26C

Identification number (13)	IP address or phone number	Category information	Detailed information
----------------------------	----------------------------	----------------------	----------------------

FIG.26D

Identification number (14)	IP address or phone number	Completion information
----------------------------	----------------------------	------------------------

{ 0:Normal completion
1:Abnormal completion

FIG.26E

Identification number (15)	IP address or phone number	Completion information
----------------------------	----------------------------	------------------------

{ 0:Normal completion
1:Abnormal completion

FIG.26F

Identification number (16)	IP address or phone number	Information-display-changing menu
----------------------------	----------------------------	-----------------------------------

FIG.26G

Identification number (17)	IP address or phone number	Information-deleting menu
----------------------------	----------------------------	---------------------------

FIG.27A

Requested identification number (11)	IP address or phone number
--	-------------------------------

FIG.27B

Requested identification number (12)	IP address or phone number	Password	Category information	Detailed information
--	-------------------------------	----------	-------------------------	-------------------------

FIG.27C

Requested identification number (13)	IP address or phone number	Password	Category information	Detailed information
--	-------------------------------	----------	-------------------------	-------------------------

FIG.27D

Requested identification number (14)	IP address or phone number	Password	Category information	Information No.	Detailed information
--	-------------------------------	----------	-------------------------	--------------------	-------------------------

1 to 999

FIG.27E

Requested identification number (15)	IP address or phone number	Password	Category information	Deletion No.
--	-------------------------------	----------	-------------------------	-----------------

0:Complete deletion

1 to 999:Information No.

FIG.27F

Requested identification number (16)	IP address or phone number
--	-------------------------------

FIG.27G

Requested identification number (17)	IP address or phone number
--	-------------------------------

FIG. 28

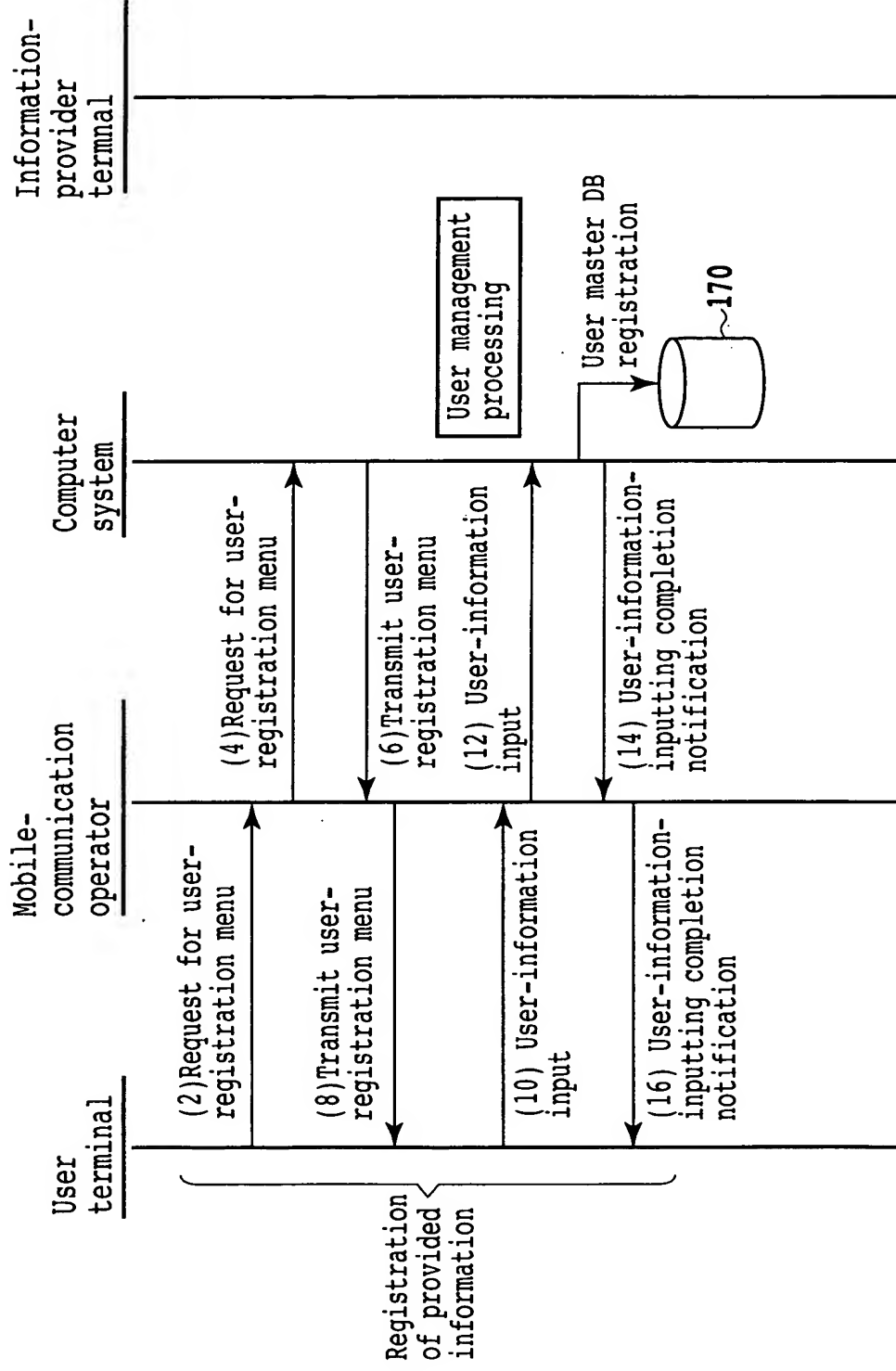


FIG. 29

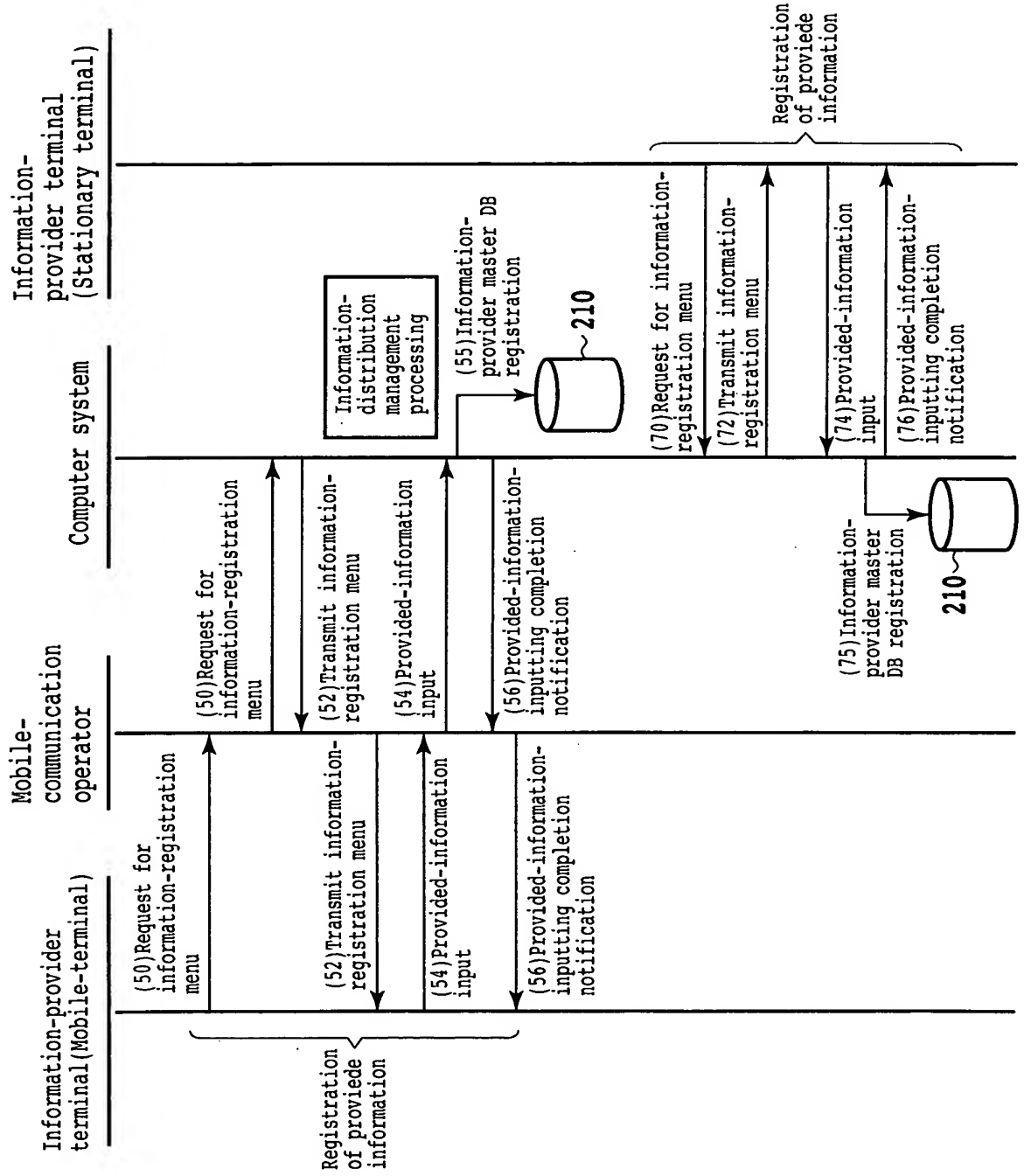


FIG. 30

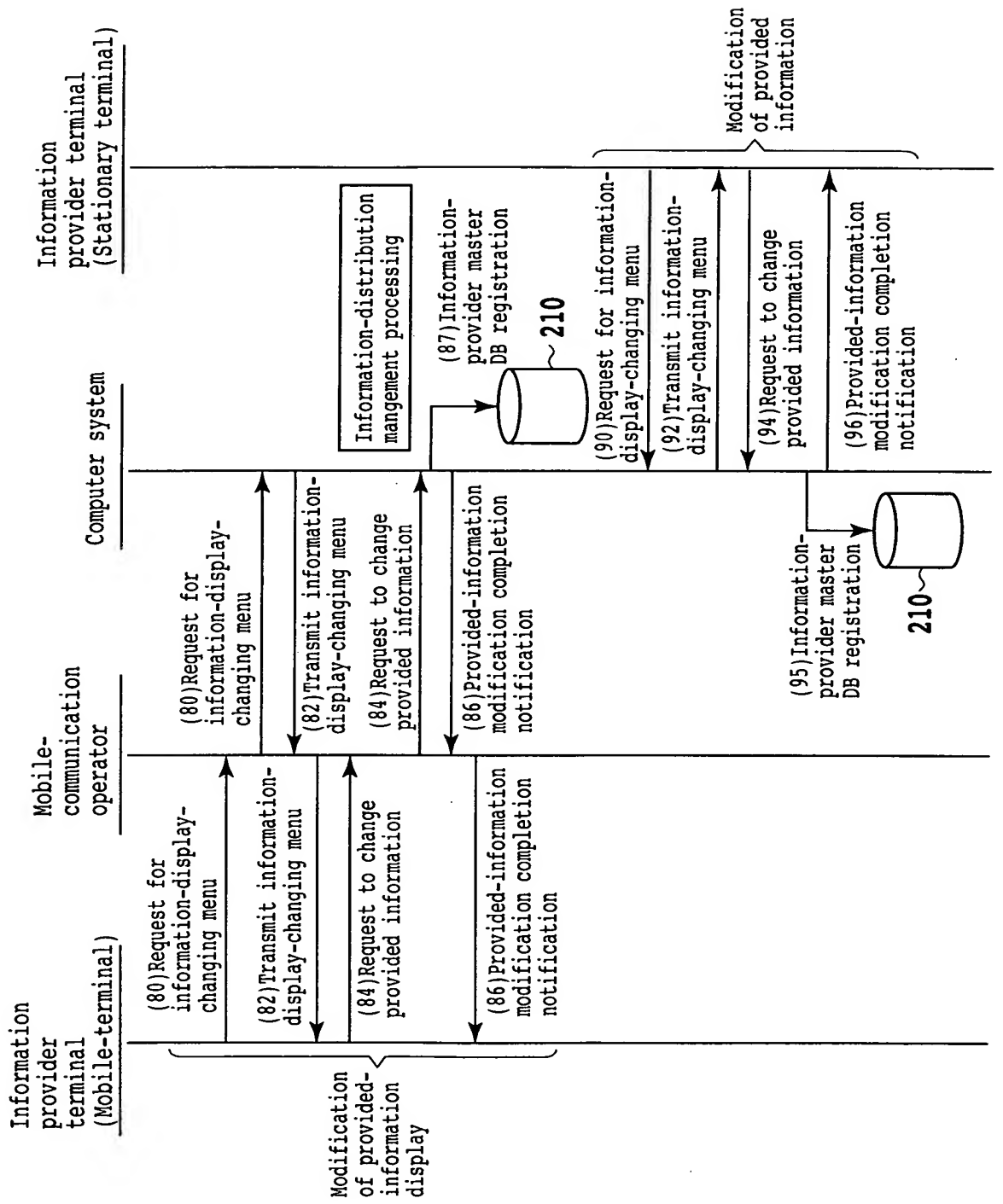


FIG. 31

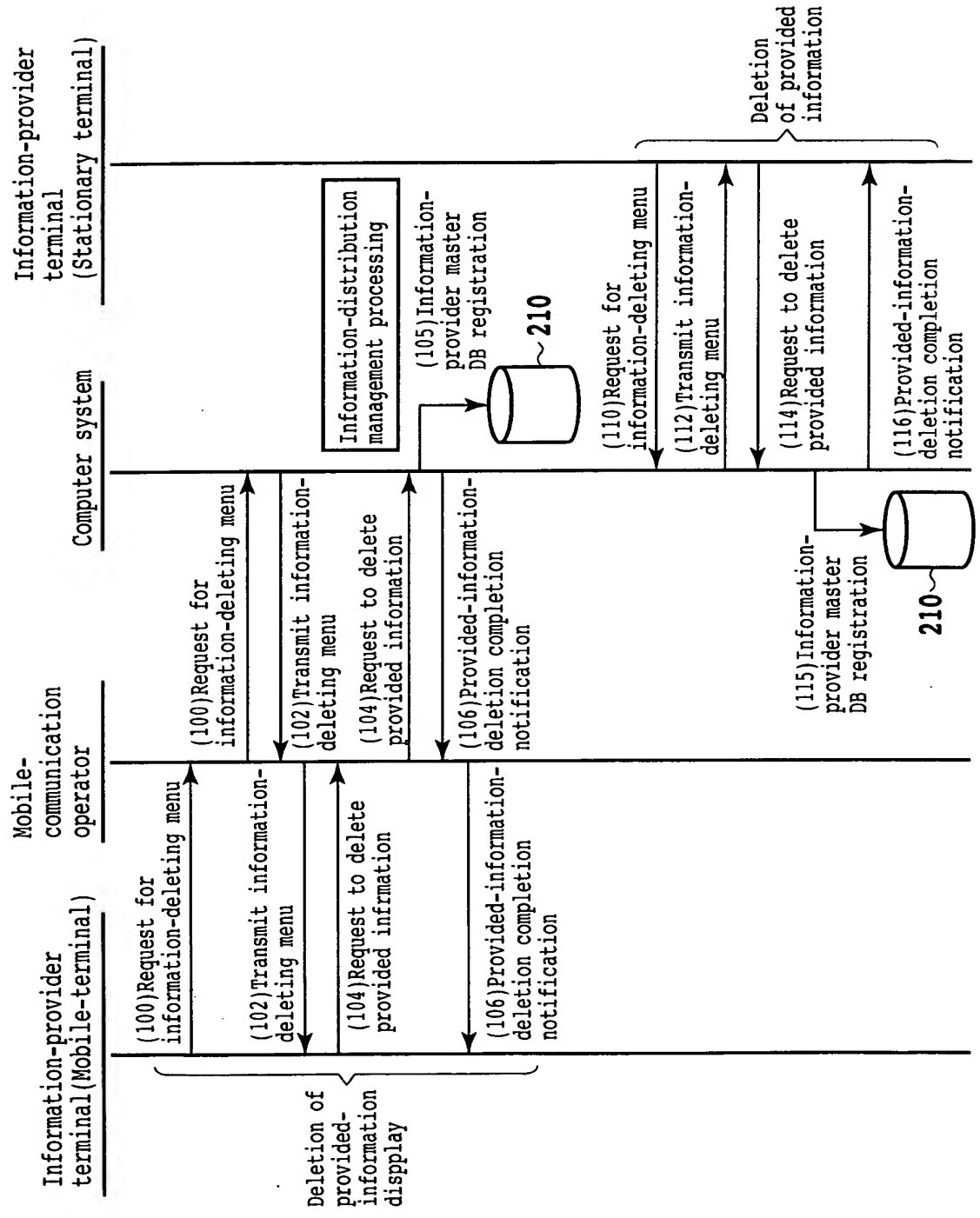
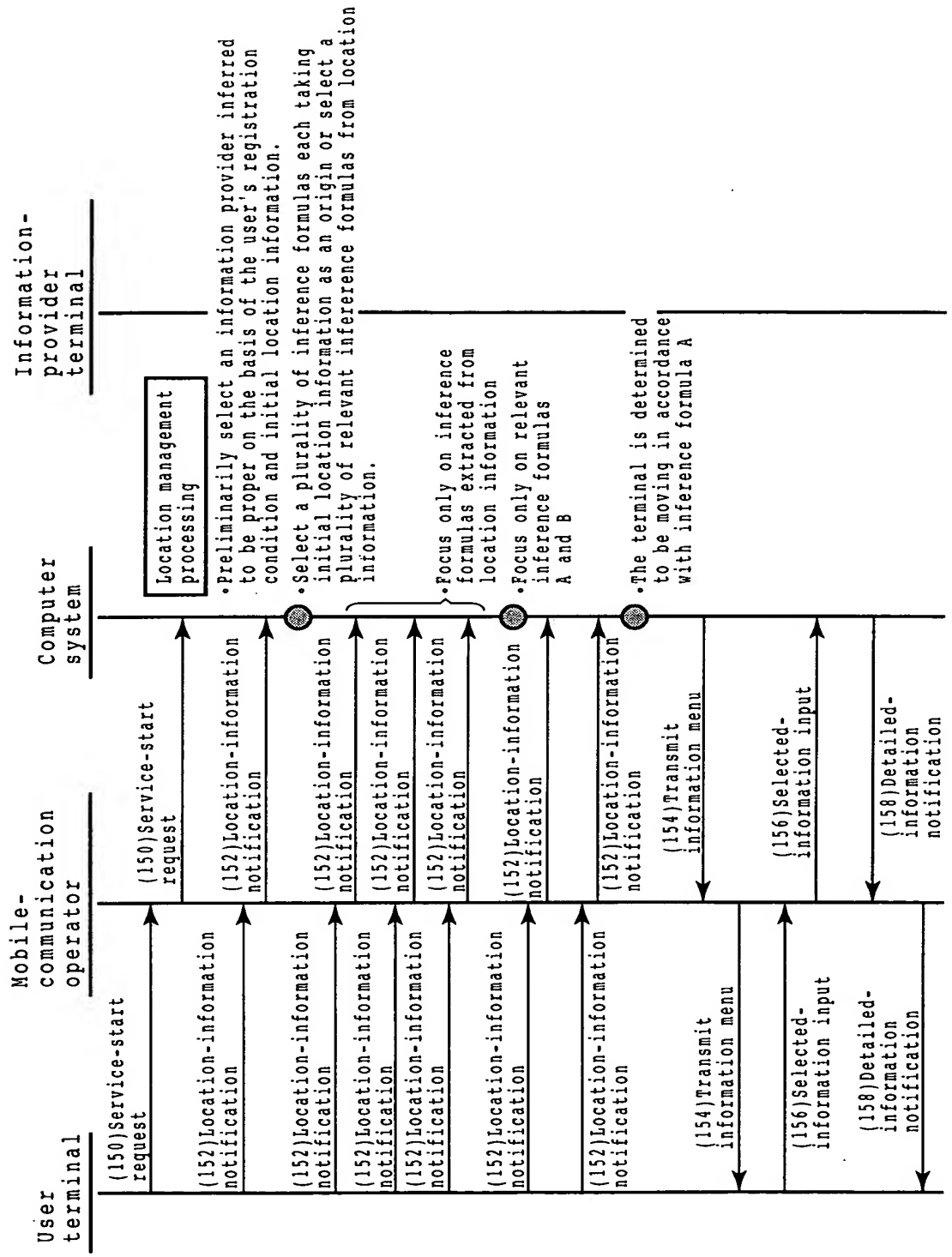


FIG. 32



User terminal	Mobile-communication operator	Information-provider terminal
Computer system		

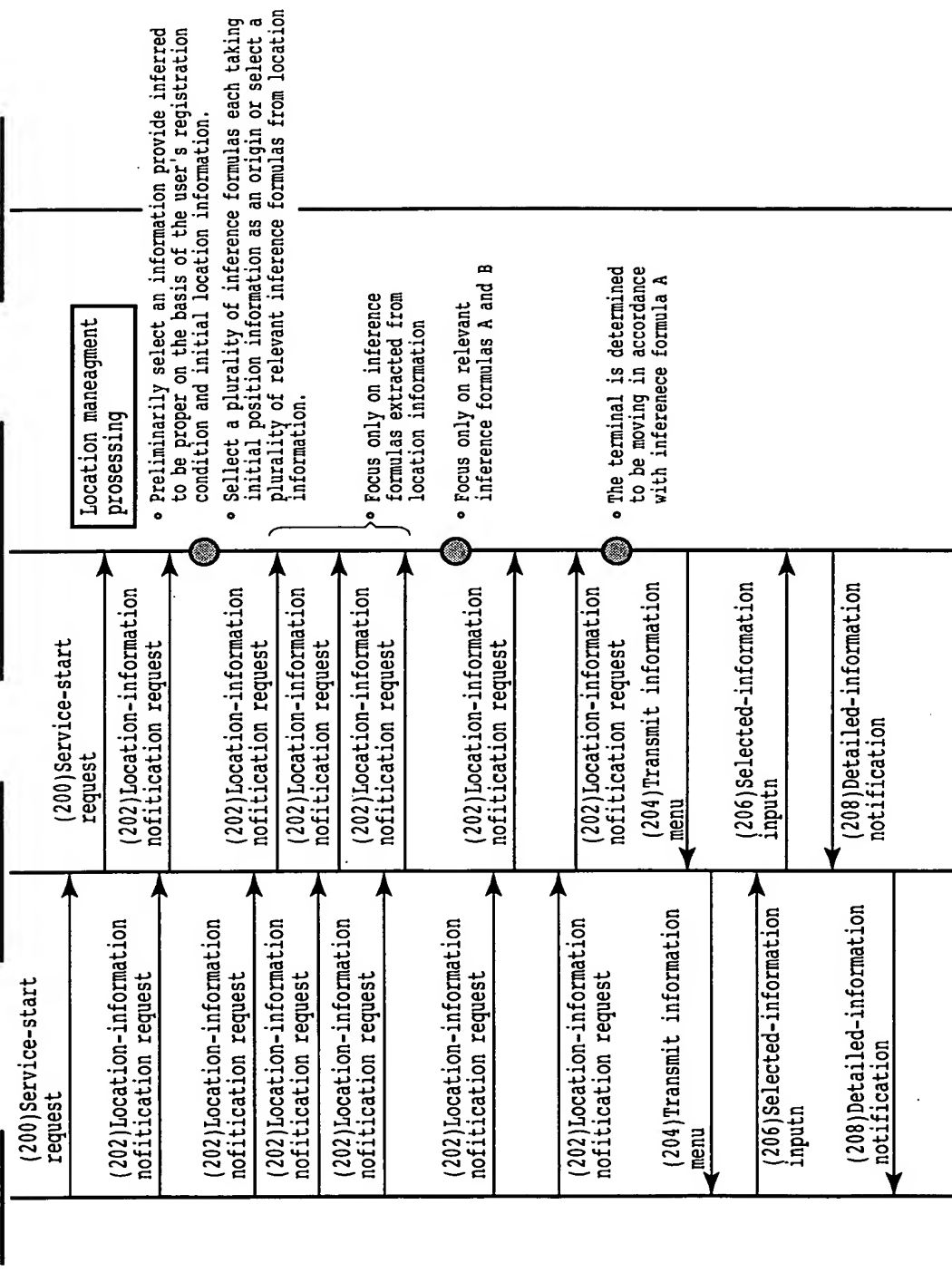
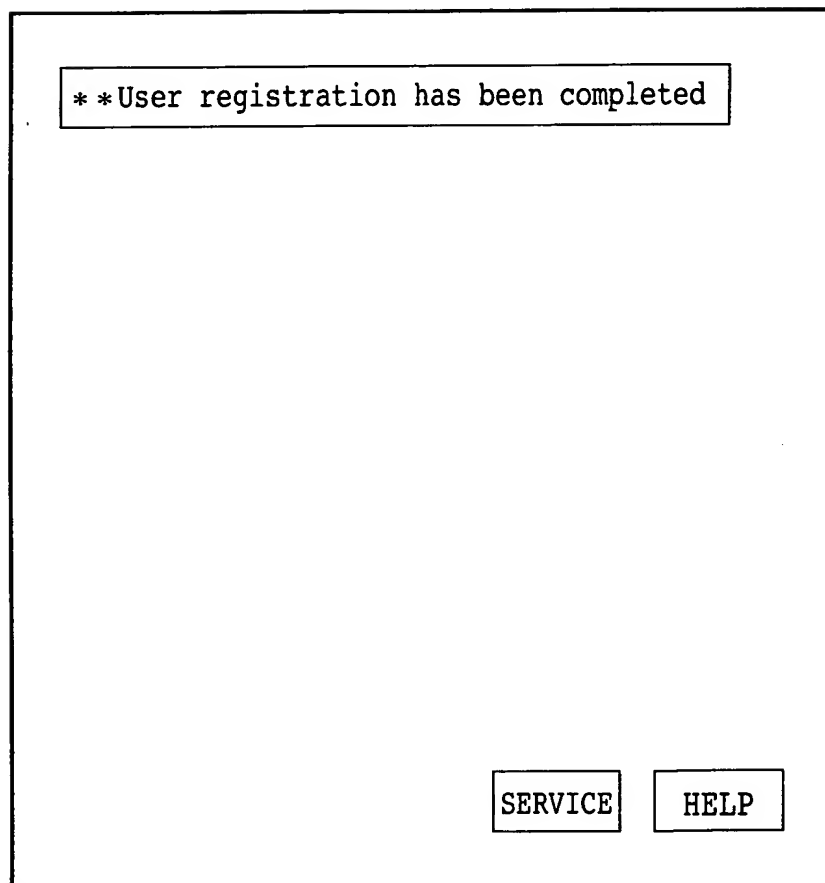


FIG.34

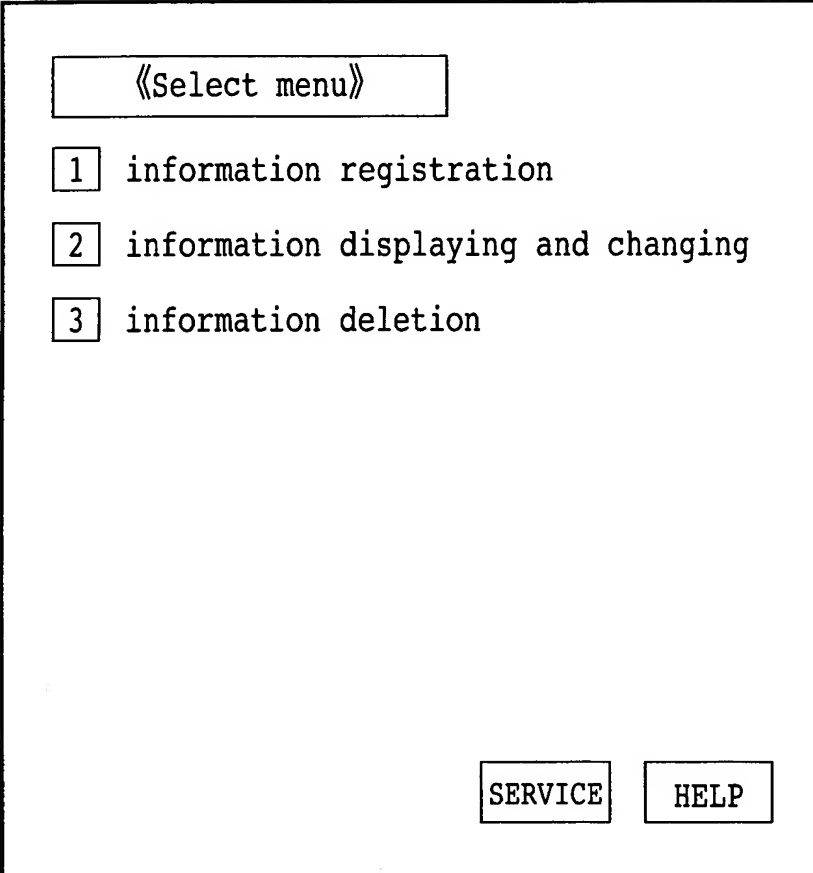
《User-registration menu》	
User name	ABC
Password	*****
<input checked="" type="checkbox"/> Traffic information	
<input checked="" type="checkbox"/> Shopping information	
<input checked="" type="checkbox"/> Event information	
<input type="checkbox"/> Restaurant information	
<input type="button" value="←"/>	<input type="button" value="→"/>
<input type="button" value="↑"/>	<input type="button" value="↓"/>
<input type="button" value="LIST"/>	<input type="button" value="URGENT"/>
<input type="button" value="REGISTER"/>	<input type="button" value="CANCEL"/>
<input type="button" value="SERVICE"/>	<input type="button" value="HELP"/>

FIG.35



Screen after user registration

FIG.36



The diagram shows a rectangular screen with a black border. At the top, there is a rectangular box containing the text «Select menu». Below this box, there is a list of three items, each preceded by a number inside a small square box: 1 information registration, 2 information displaying and changing, and 3 information deletion. At the bottom right of the screen, there are two separate rectangular boxes, one labeled SERVICE and one labeled HELP.

«Select menu»

1 information registration

2 information displaying and changing

3 information deletion

SERVICE HELP

Select menu screen

FIG.37

《Information-registration menu》	
User name	ABC
Password	*****
<input type="checkbox"/>	Traffic information
<input checked="" type="checkbox"/>	Shopping information
<input type="checkbox"/>	Event information
<input type="checkbox"/>	Restaurant information
<input type="button" value="←"/>	<input type="button" value="→"/>
<input type="button" value="↑"/>	<input type="button" value="↓"/>
<input type="button" value="LIST"/>	
<input type="button" value="REGISTER"/>	<input type="button" value="CANCEL"/>
<input type="button" value="SERVICE"/>	<input type="button" value="HELP"/>

Information-registration menu screen
(Category inputting)

FIG.38

《information menu》

1

Traffic information

2

Train and bus information

3

Shopping information

4

Event information

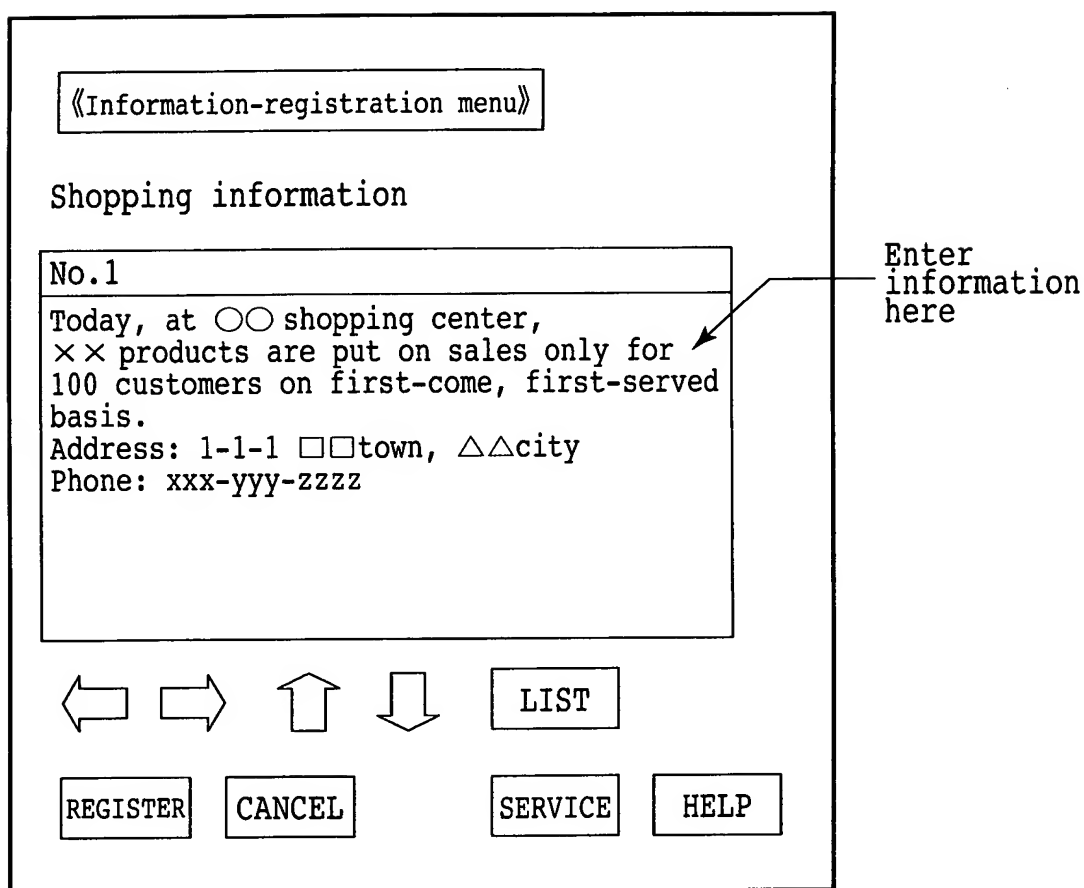
5

Entertainment information

SERVICE

HELP

F I G.39



The diagram shows a rectangular screen interface. At the top, a box contains the text «Information-registration menu». Below this, the text 'Shopping information' is displayed. A large rectangular box contains the following text: 'No.1', 'Today, at ○○ shopping center, ×× products are put on sales only for 100 customers on first-come, first-served basis.', 'Address: 1-1-1 □□town, △△city', and 'Phone: xxx-yyy-zzzz'. An arrow points from the text 'Enter information here' to the text '100 customers' within this box. Below the large box, there are four arrow icons (left, right, up, down) and a 'LIST' button. At the bottom, there are four buttons: 'REGISTER', 'CANCEL', 'SERVICE', and 'HELP'.

«Information-registration menu»

Shopping information

No.1

Today, at ○○ shopping center,
×× products are put on sales only for
100 customers on first-come, first-served
basis.
Address: 1-1-1 □□town, △△city
Phone: xxx-yyy-zzzz

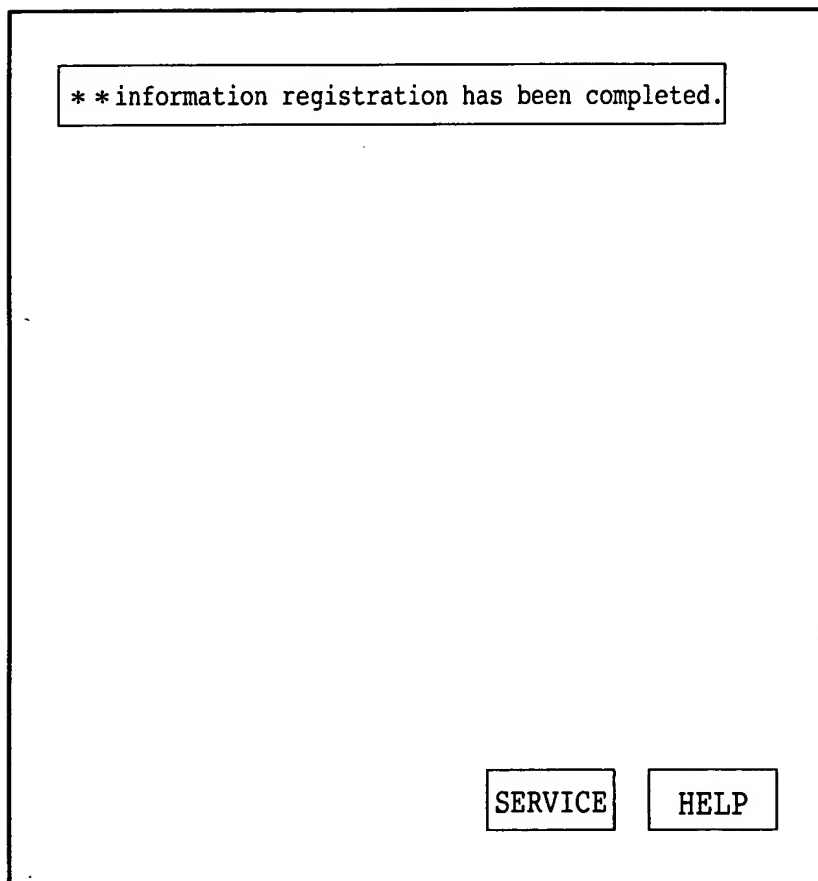
Enter information here

← → ↑ ↓ LIST

REGISTER CANCEL SERVICE HELP

Information-registration menu screen
(Detailed-information inputting)

F I G.40



Screen after information registration

FIG.41

《Information-disply-changing menu》

User name	ABC
Password	*****

☐ Traffic information

☒ Shopping information

☐ Event information

☐ Restaurant information

←

→

↑

↓

LIST

URGENT

DETERMINE

CANCEL

SERVICE

HELP

Information-displaying screen
(Category selection)

FIG.42

《Information-display changing menu》

Shopping information

No.1

Today, at ○○ shopping center,
×× products are put on sales only for
100 customers on first-come, first-served
basis.
Address: 1-1-1 □□town, △△city
Phone: xxx-yyy-zzzz

←

→

↑

↓

LIST

CHANGE

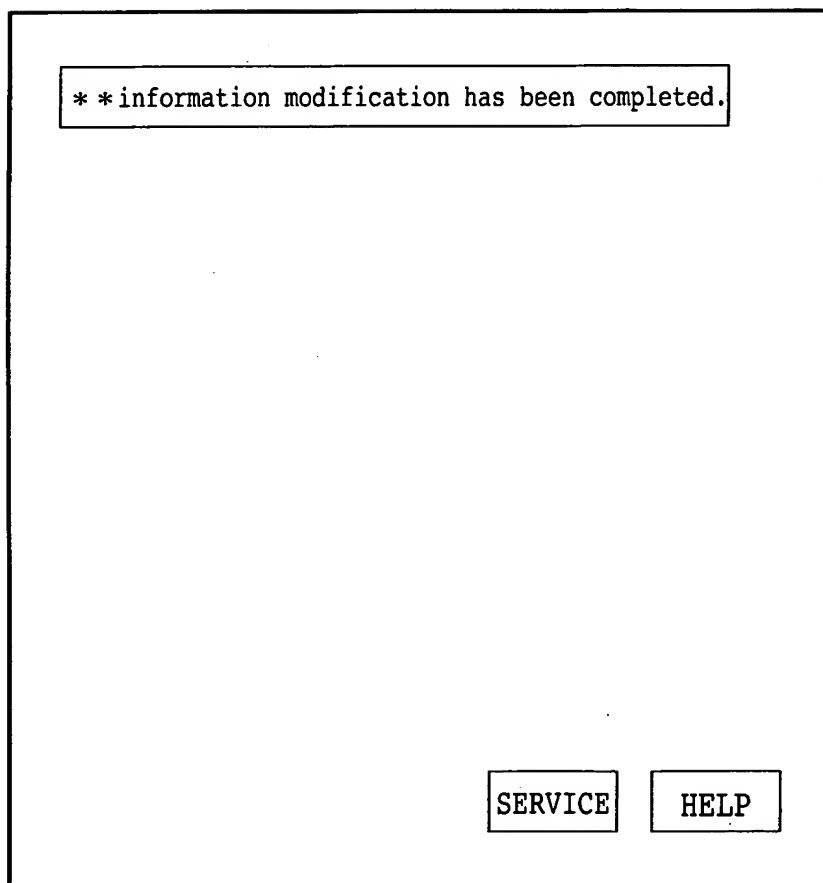
CANCEL

SERVICE

HELP

Information-displaying screen
(Detailed-information display)

FIG.43



Screen after information modification

FIG.44

《information deletion menu》

User name

ABC

Password

☐ Traffic information

☒ Shopping information

☐ Event information

☐ Restaurant information

←

→

↑

↓

LIST

URGENT

DETERMINE

CANCEL

SERVICE

HELP

Information-deletion screen
(Category selection)

FIG.45

《information deletion menu》

Shopping information

No.1

Today, at ○○ shopping center,
×× products are put on sales only for
100 customers on first-come, first-served
basis.
Address: 1-1-1 □□town, △△city
Phone: xxx-yyy-zzzz

←

→

↑

↓

LIST

DELETE

CANCEL

SERVICE

HELP

Information deletion screen
(Detailed-information deletion)

FIG.46

《information deletion menu》

Shopping information

No.1

Today, at ○○ shopping center,
×× products are put on sales only for
100 customers on first-come, first-served
basis.
Address: 1-1-1 □□town, △△city
Phone: xxx-yyy-zzzz

☒ Deletion of No.1

☐ Deletion of all

←

→

↑

↓

LIST

DELETE

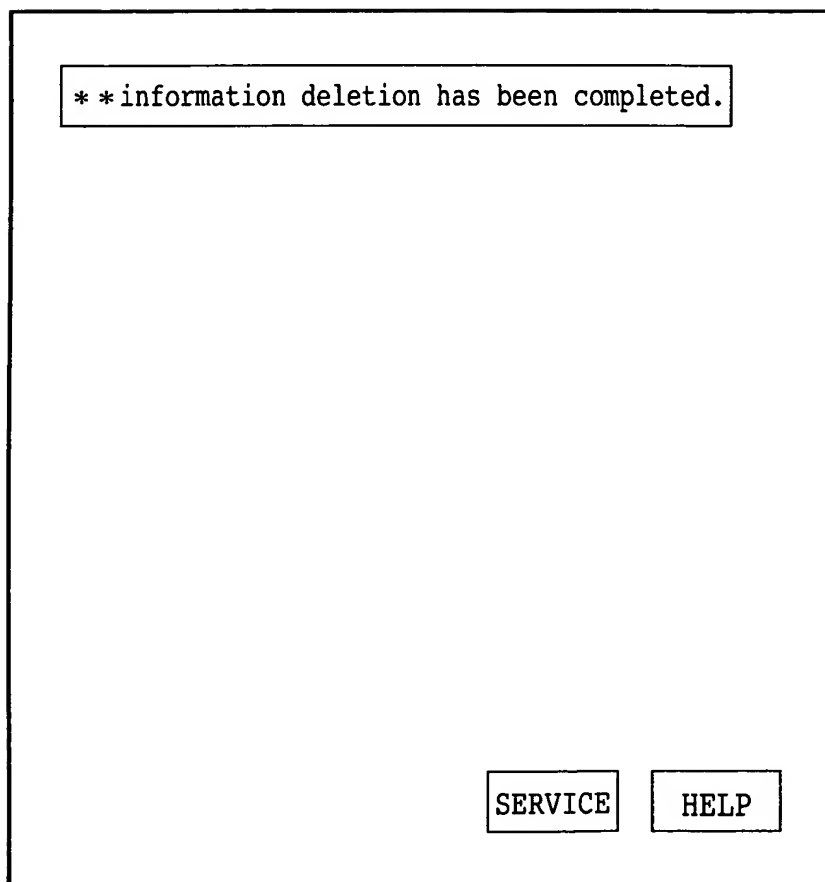
CANCEL

SERVICE

HELP

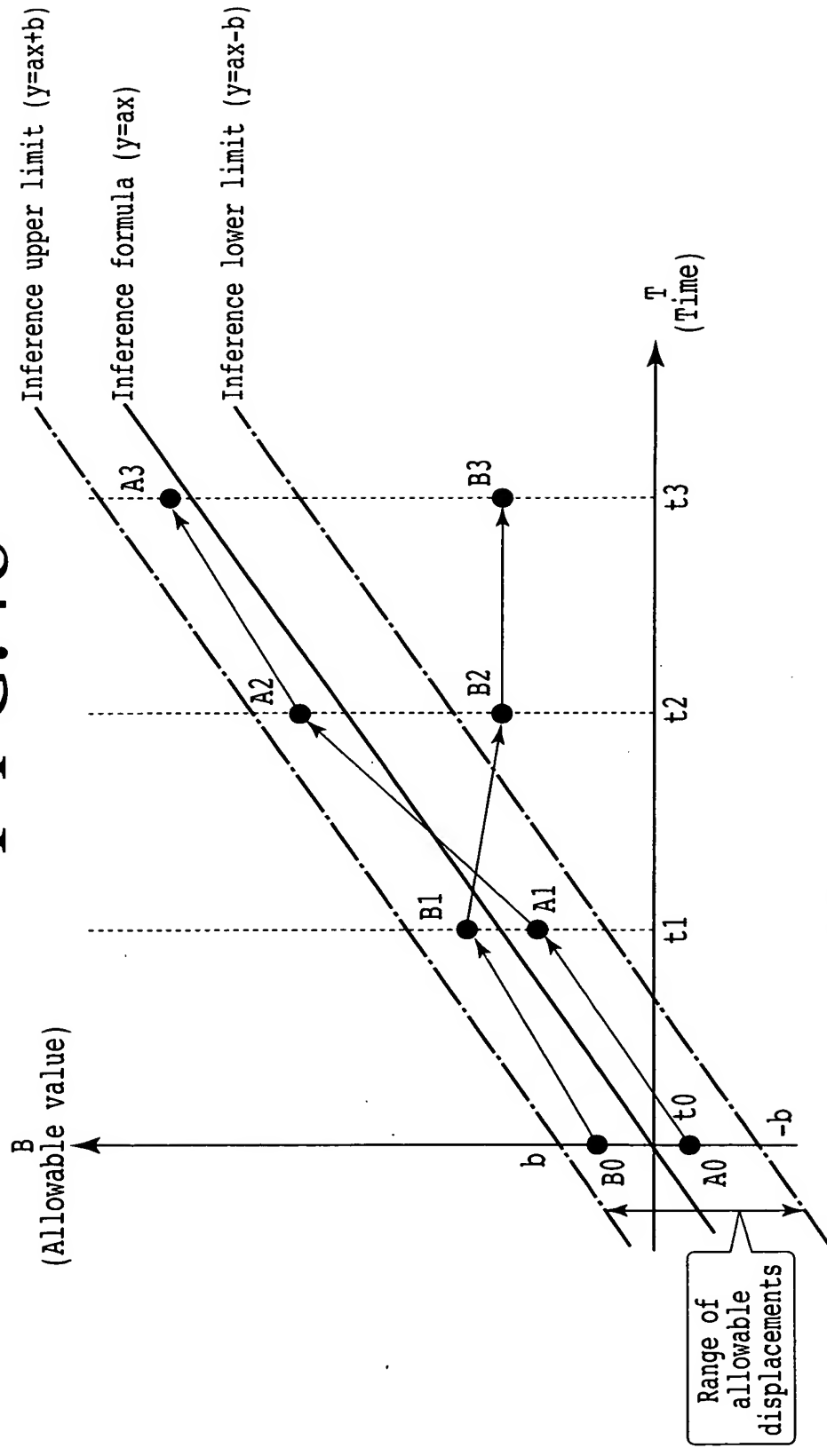
Information deletion screen
(Detailed-information deletion)

FIG.47



Screen after information deletion

FIG.48



※If the value changed within the range between the upper and lower limits of the inference 3 times consecutively in a row (or 3 times in a predetermined period of time),

⇒it is possible to infer that the terminal (or the user) has been moving in a direction conforming to the inference formula (through a route of $A_0 \rightarrow A_1 \rightarrow A_2$).

⇒A movement of $B_0 \rightarrow B_1 \rightarrow B_2 \rightarrow B_3$ cannot be judged to be a movement conforming to the inference formula (A displacement of $B_2 \rightarrow B_3$ between times t_2 and t_3 can be inferred as a fixed state).

FIG.49

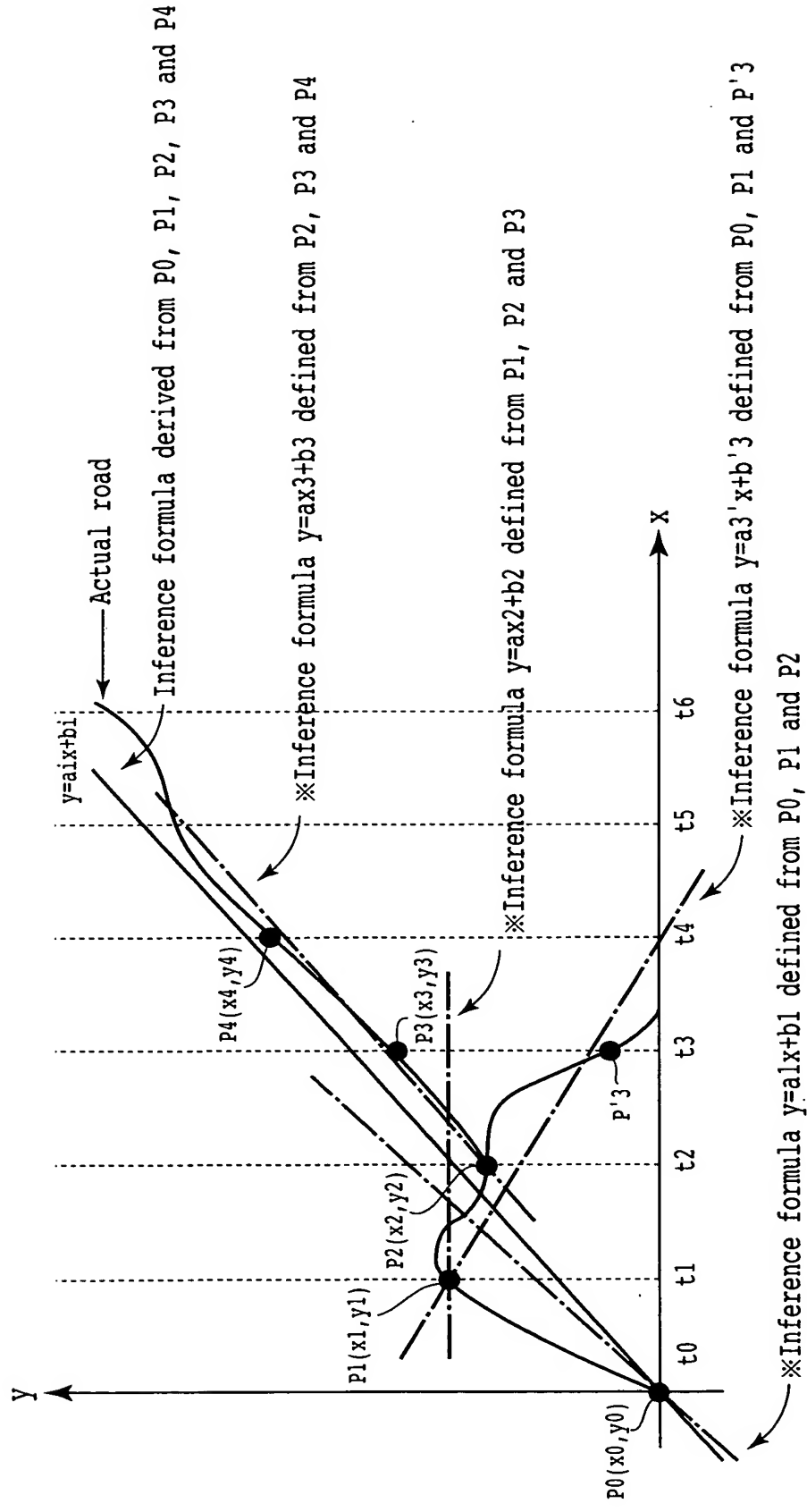


FIG.50

※Moving along grid-like road through points
P0, P1, P2 P3, P4 and P5

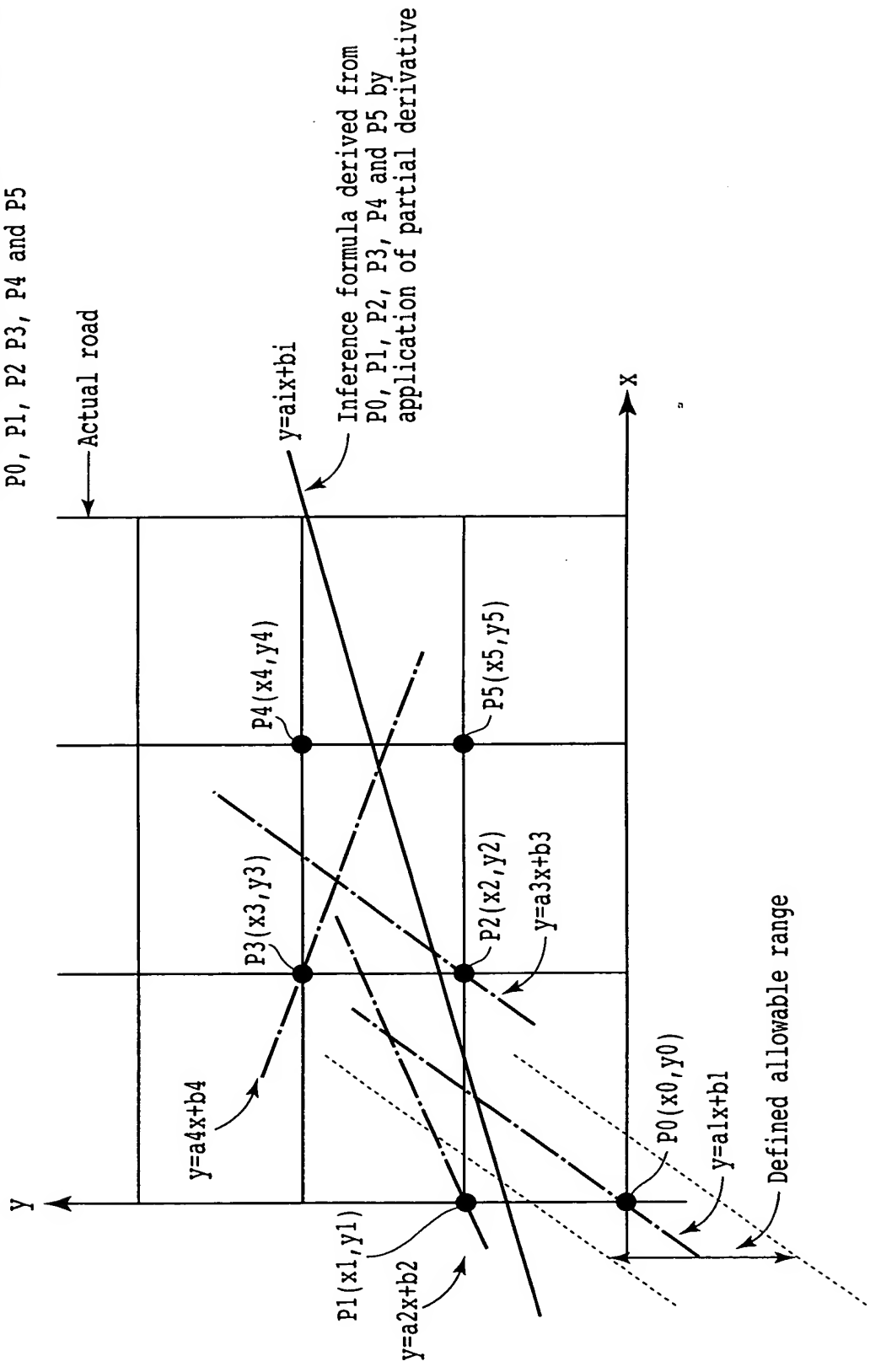


FIG. 51

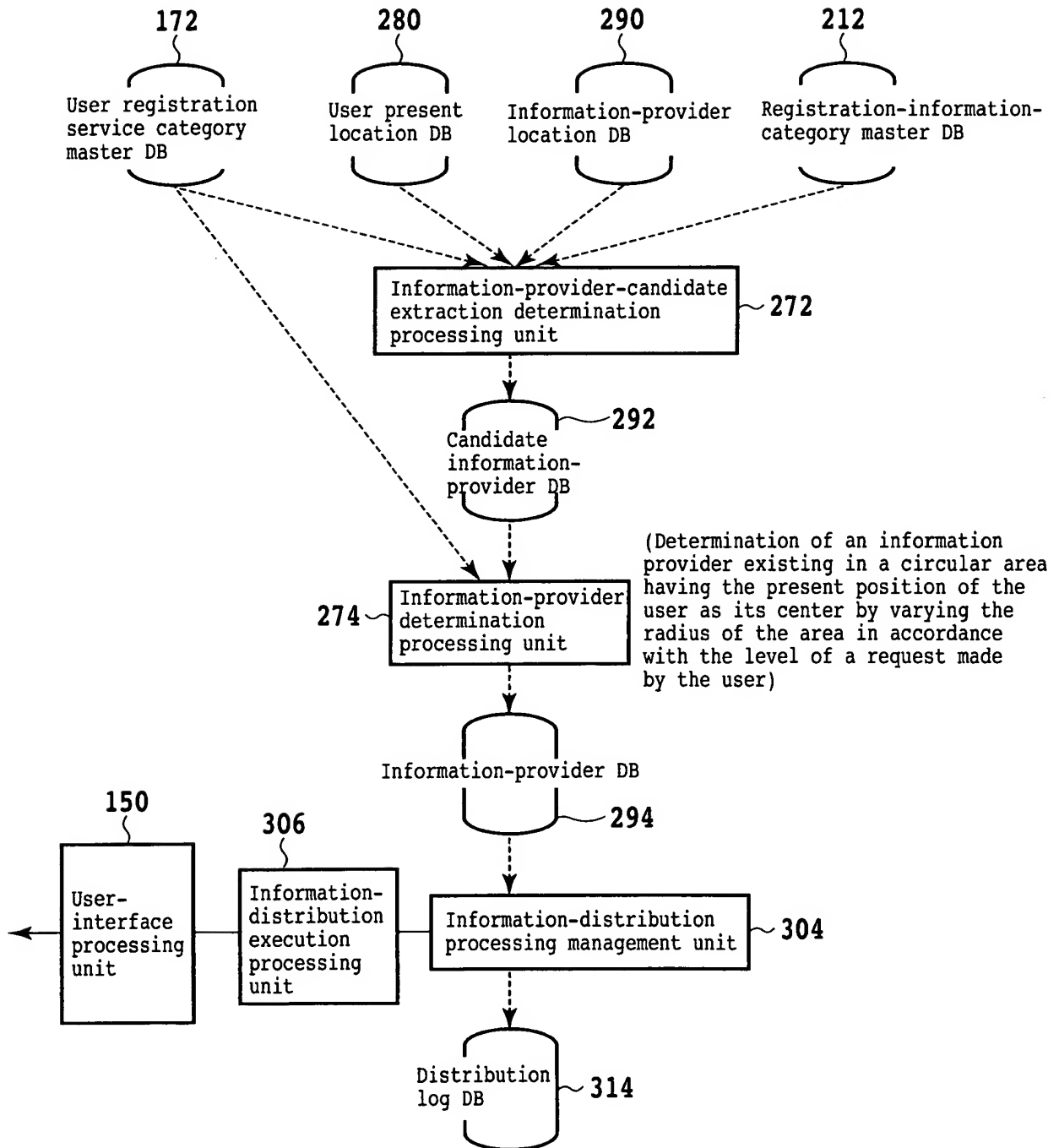


FIG. 52 A

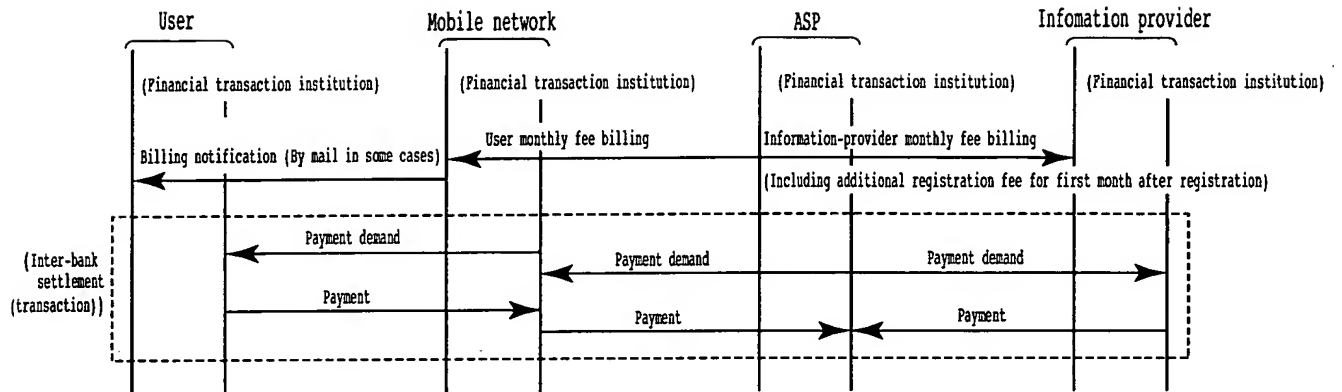


FIG. 52 B

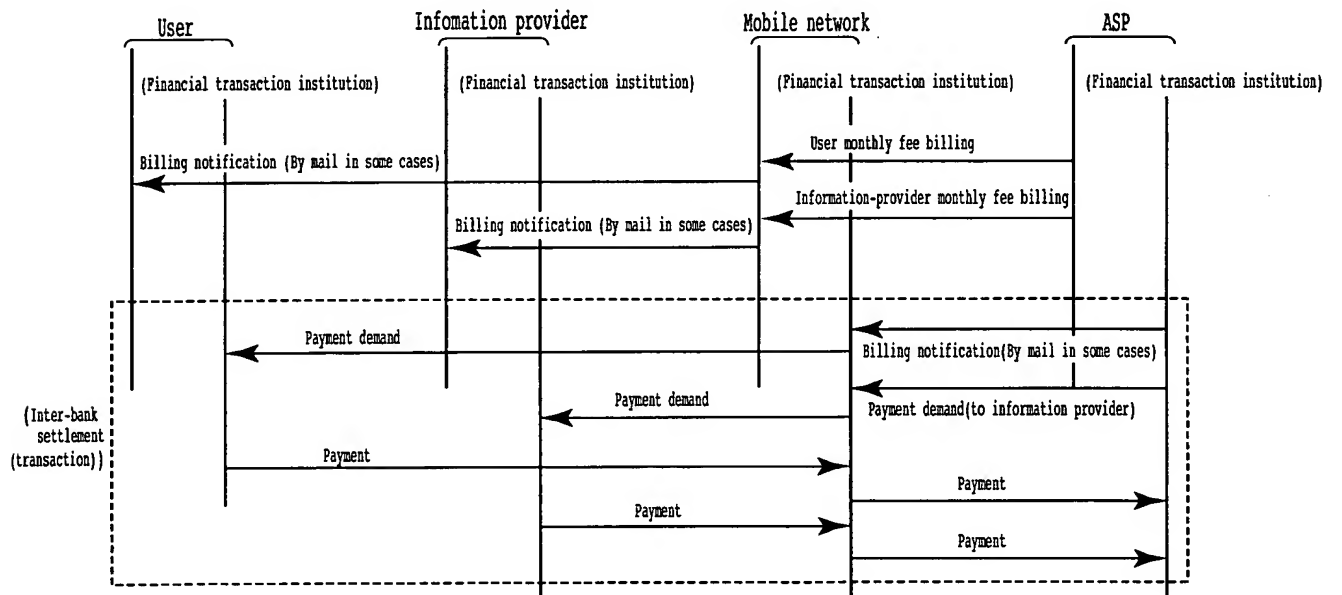


FIG. 52 C

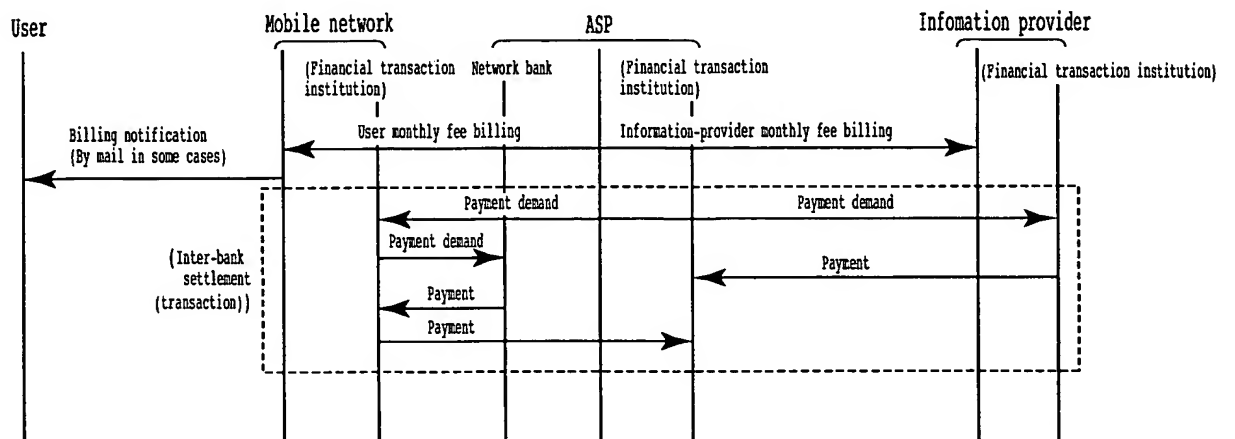


FIG. 53

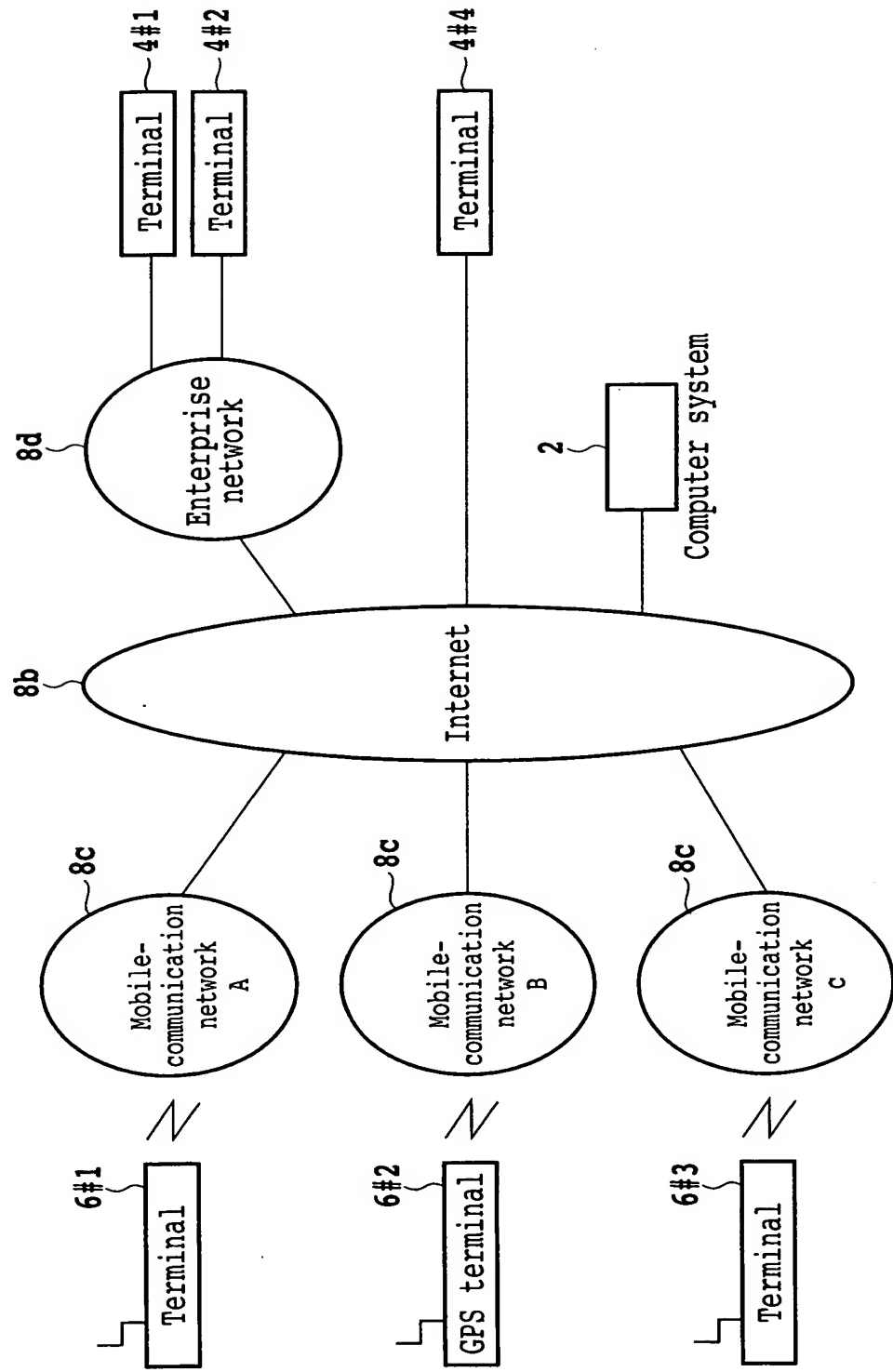


FIG.54

《Detailed shopping information》

Nakahara department store

1

 Today's buying at bargain

2

 Seasonal-bargain information

3

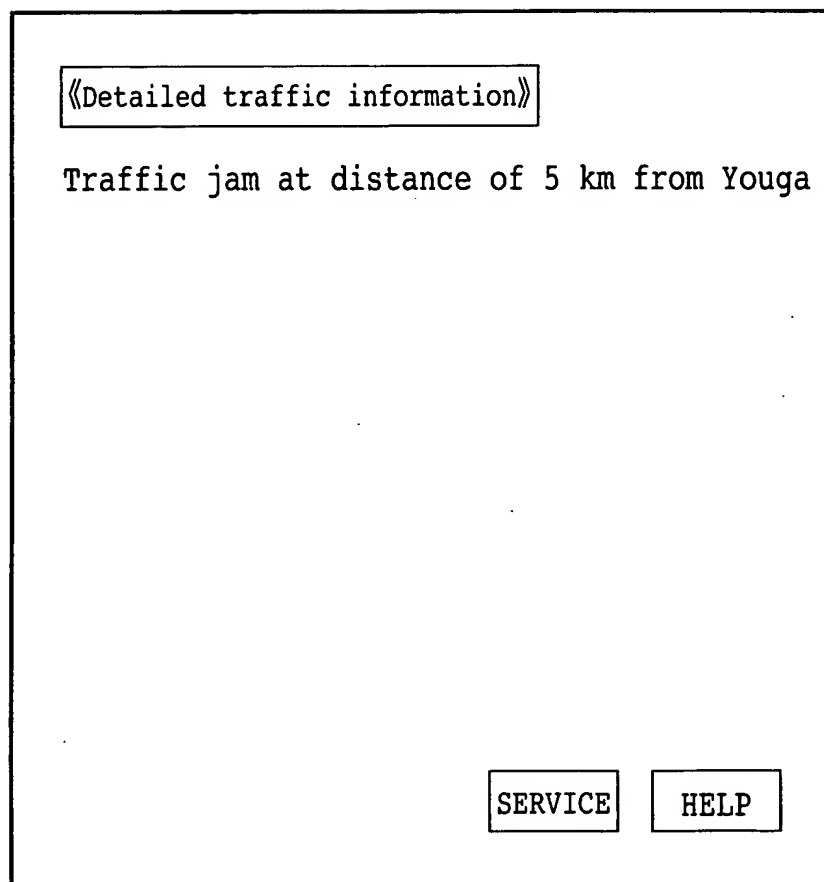
 Coupons

SERVICE

HELP

Detailed-information screen

FIG.55



Detailed-information screen

FIG. 56

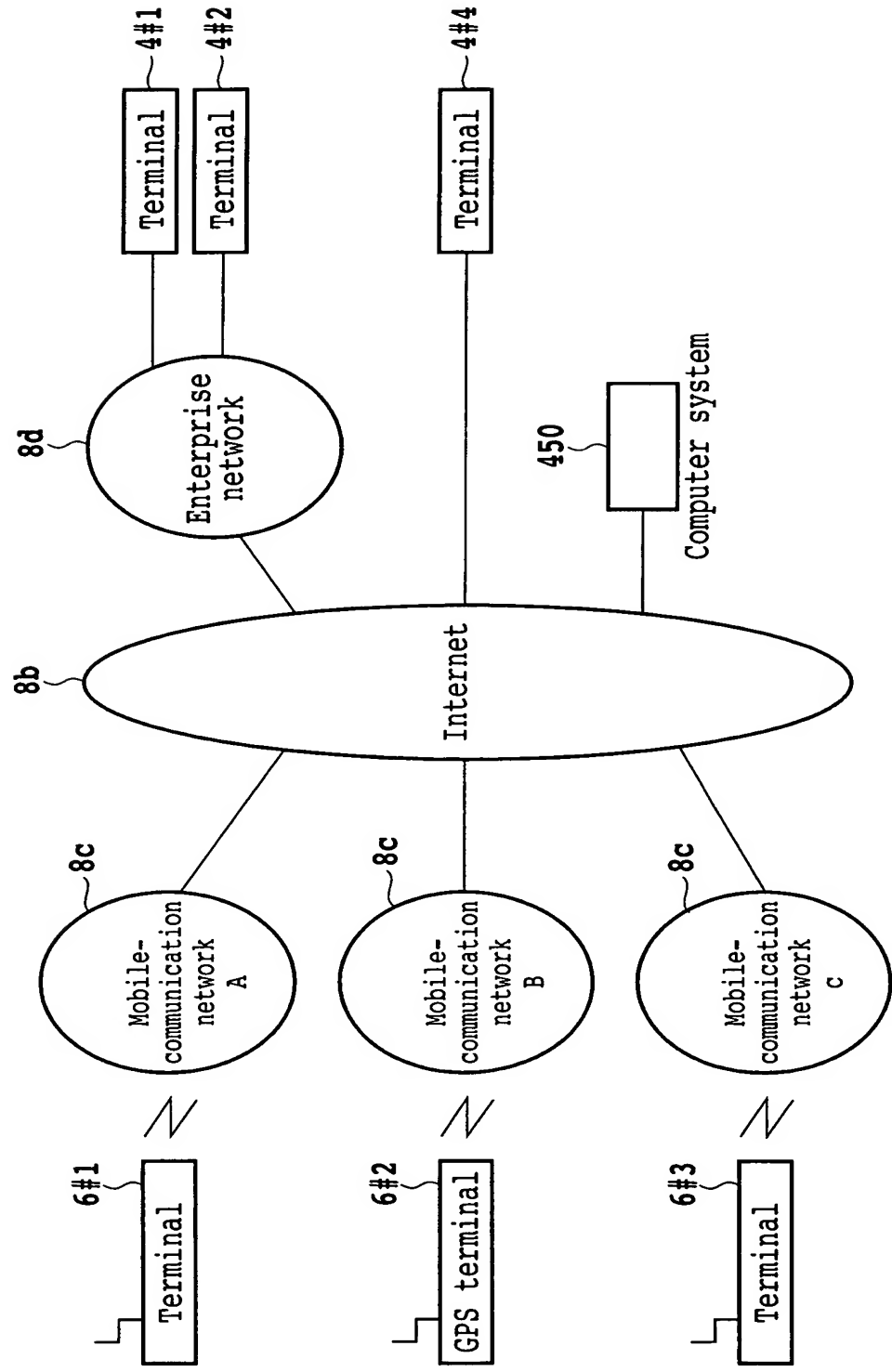


FIG.57

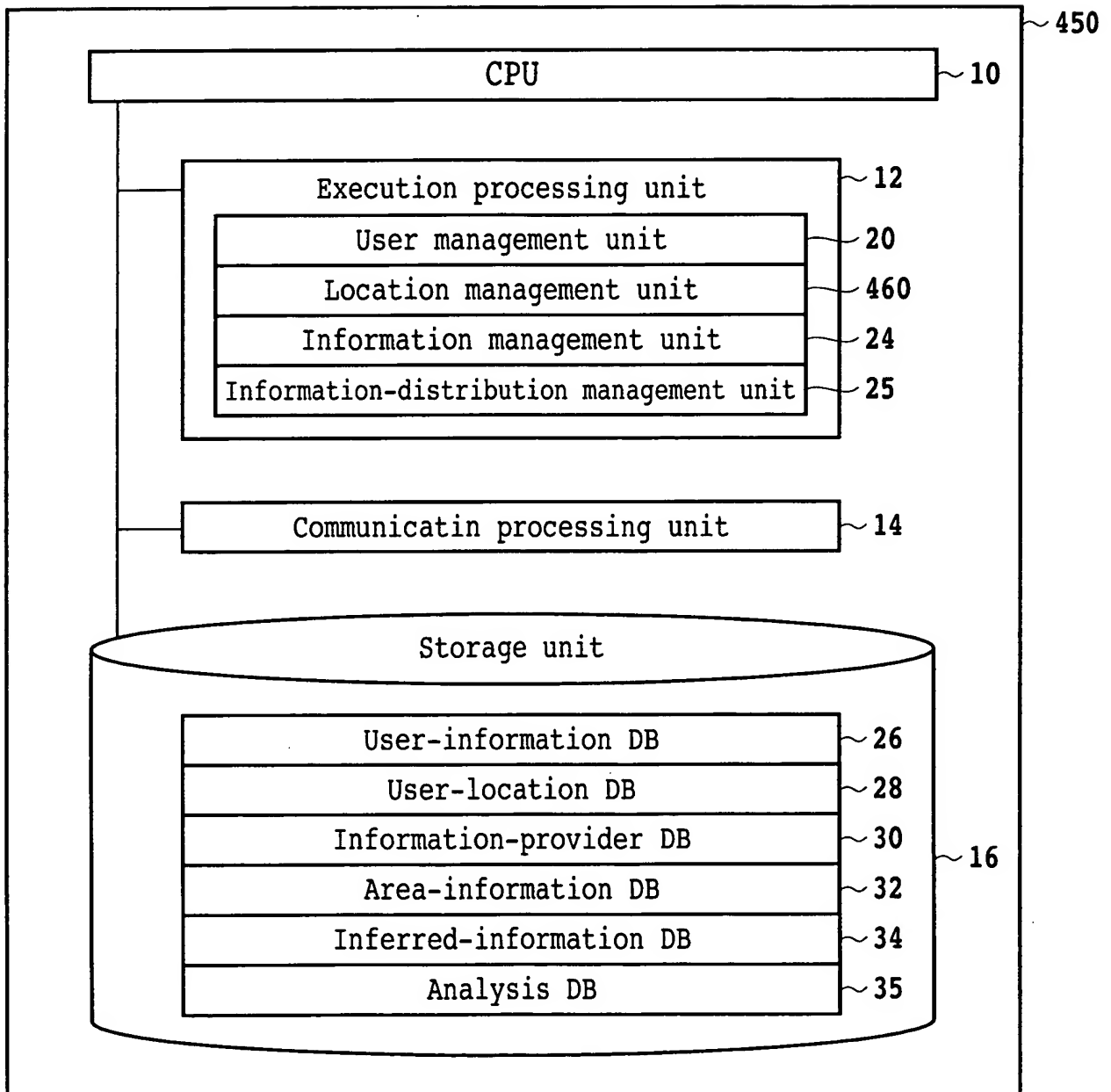
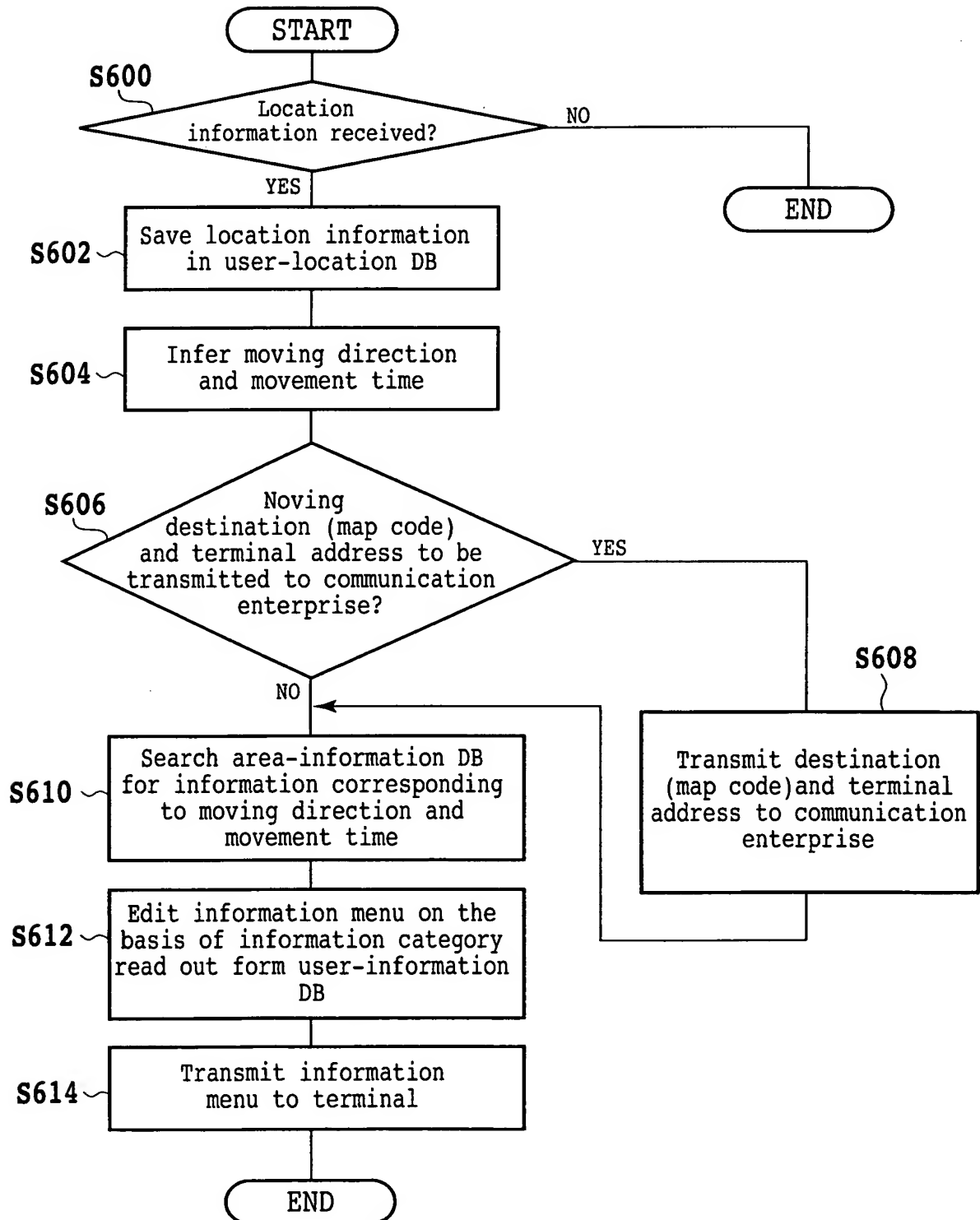


FIG. 58



User terminal	Mobile-communication operator	Computer system	Information-provider terminal
(250)Service-start request	(250)Service-start request	(250)Service-start request	
(252)Location-information notification	(252)Location-information notification	(252)Location-information notification	
(252)Location-information notification	(252)Location-information notification	(252)Location-information notification	
(252)Location-information notification	(252)Location-information notification	(252)Location-information notification	
(252)Location-information notification	(252)Location-information notification	(252)Location-information notification	
(252)Location-information notification	(252)Location-information notification	(252)Location-information notification	
(252)Location-information notification	(252)Location-information notification	(252)Location-information notification	
(252)Location-information notification	(252)Location-information notification	(252)Location-information notification	
(252)Location-information notification	(252)Location-information notification	(252)Location-information notification	
(256)Notification from mobile communication enterprise	(256)Notification from mobile communication enterprise		

Location management processing

- Preliminarily select an information provider inferred to be proper on the basis of the user's registration condition and initial location information.
- Select a plurality of inference formulas each taking initial location information as an origin or select a plurality of relevant inference formulas from location information.
- Focus only on inference formulas extracted from location information
- Focus only on relevant inference formulas A and B
- The terminal is determined to be moving in accordance with inference formula A

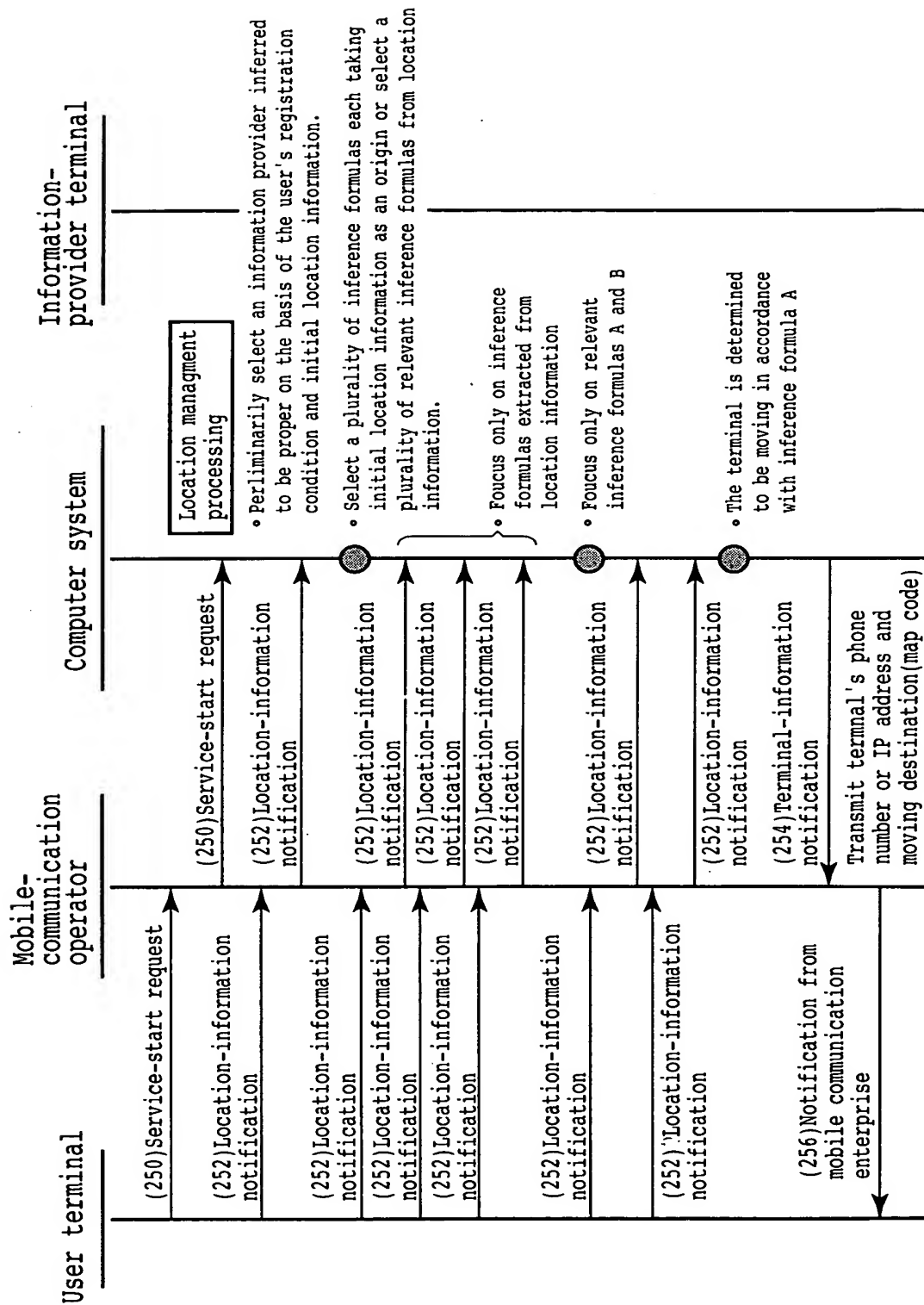


FIG.60

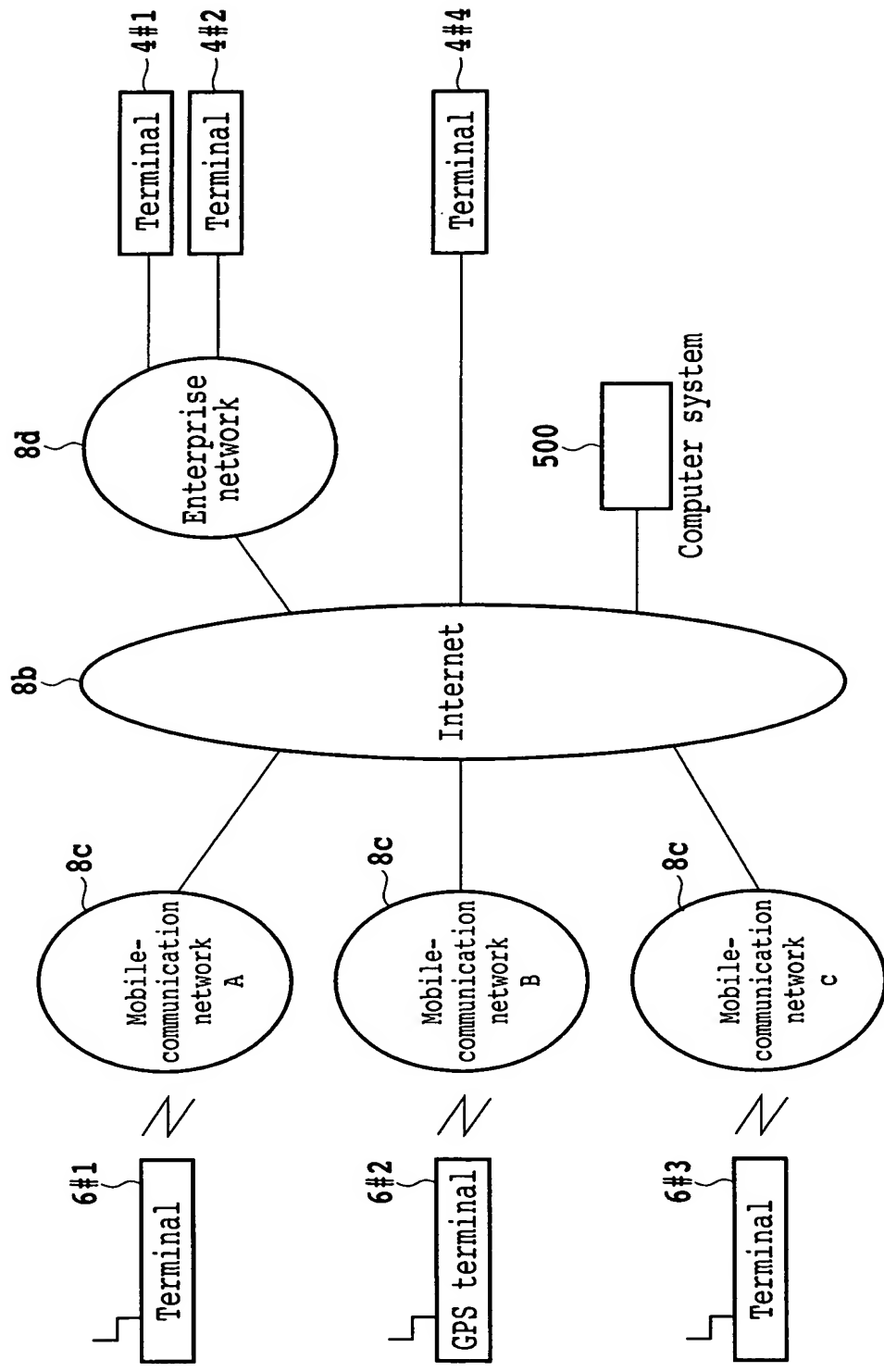


FIG.61

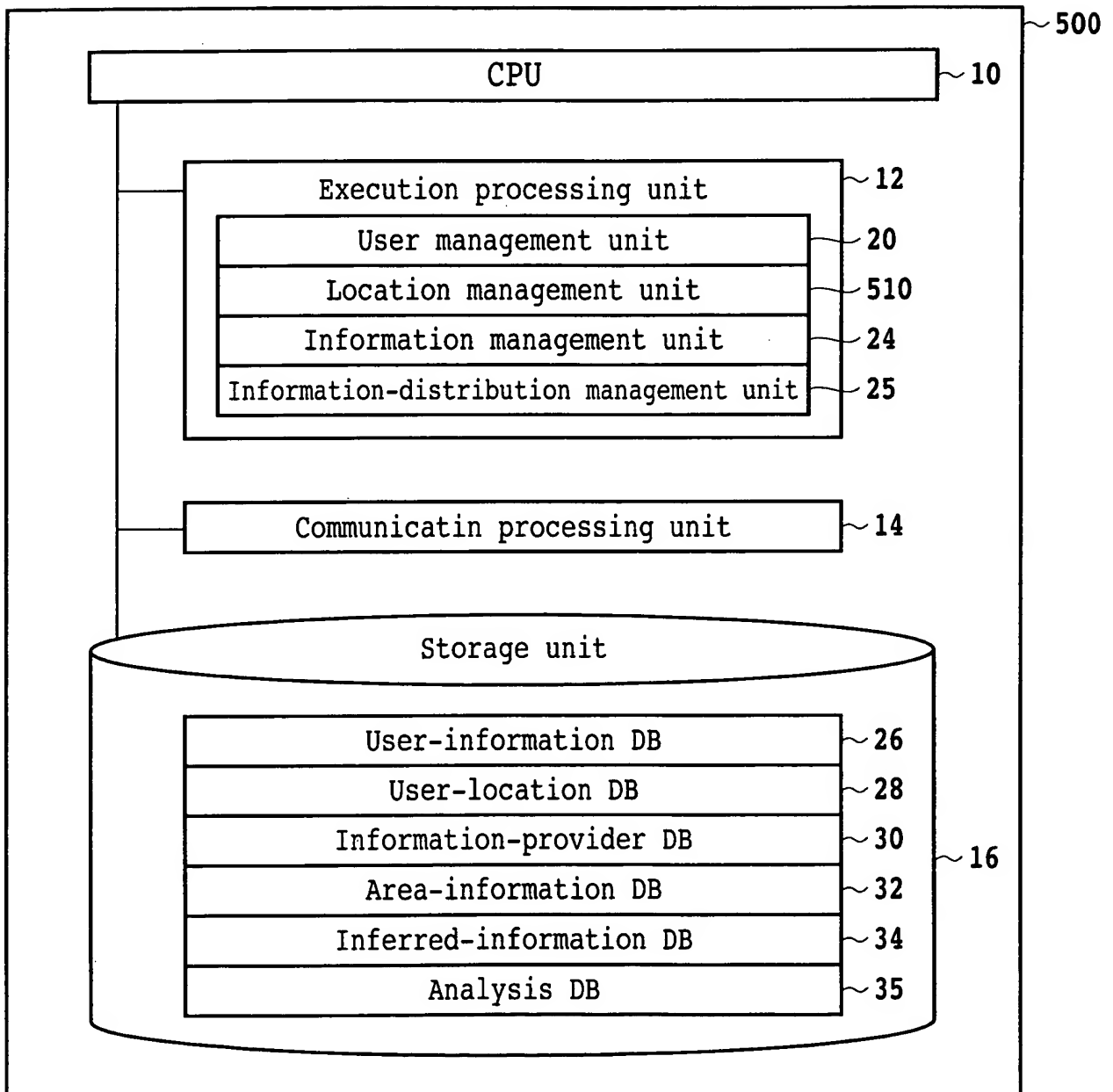
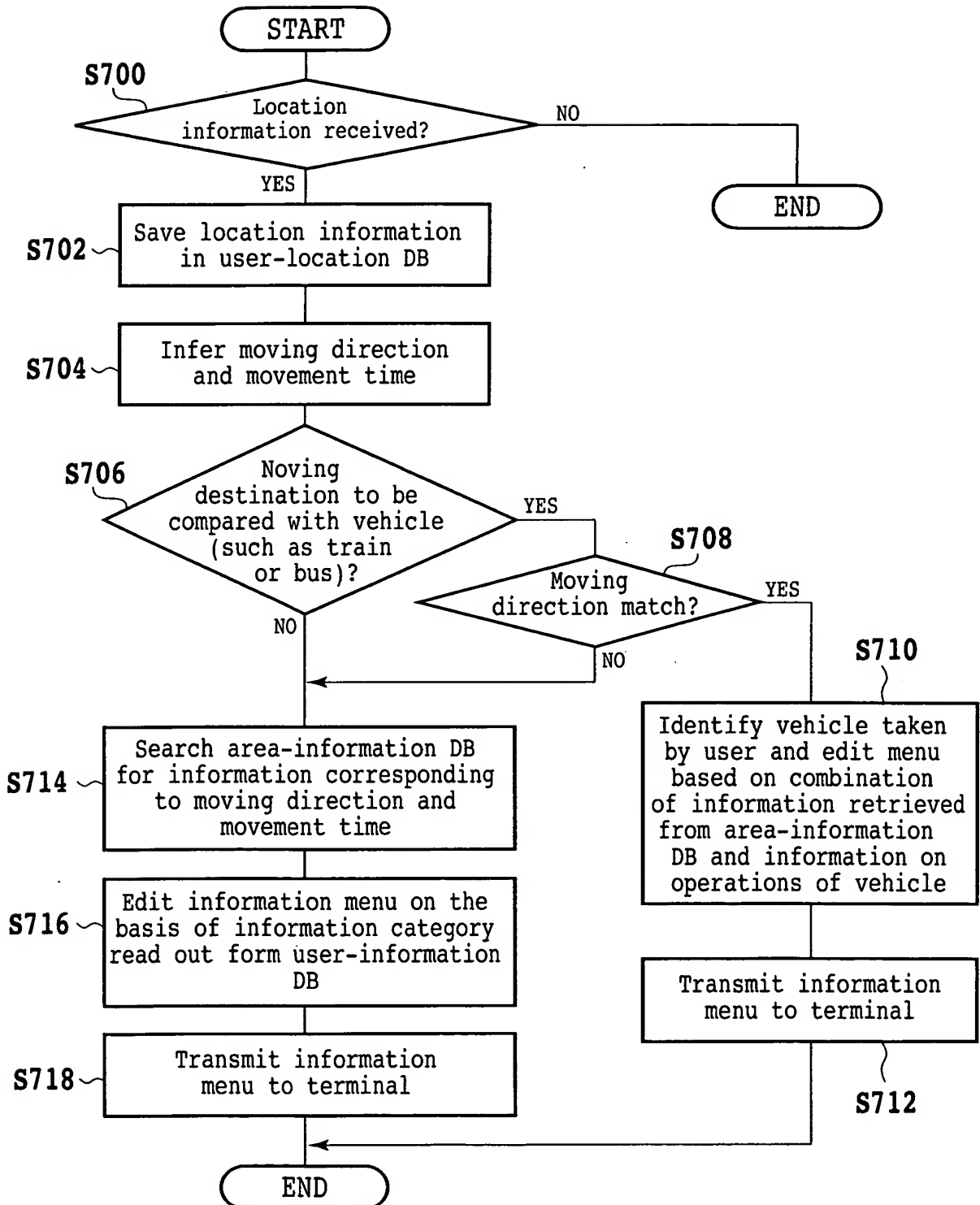


FIG. 62



F I G.63

《Detailed information on trains and buses》

The next station is Musashi Nakahara.

Will arrive at Kawasaki terminal at 12:00.

1

information on change to another train at
Kawasaki station

2

infomation on change to another train at
Musashi Kosugi station.

SERVICE

HELP

Detailed-information screen

FIG.64

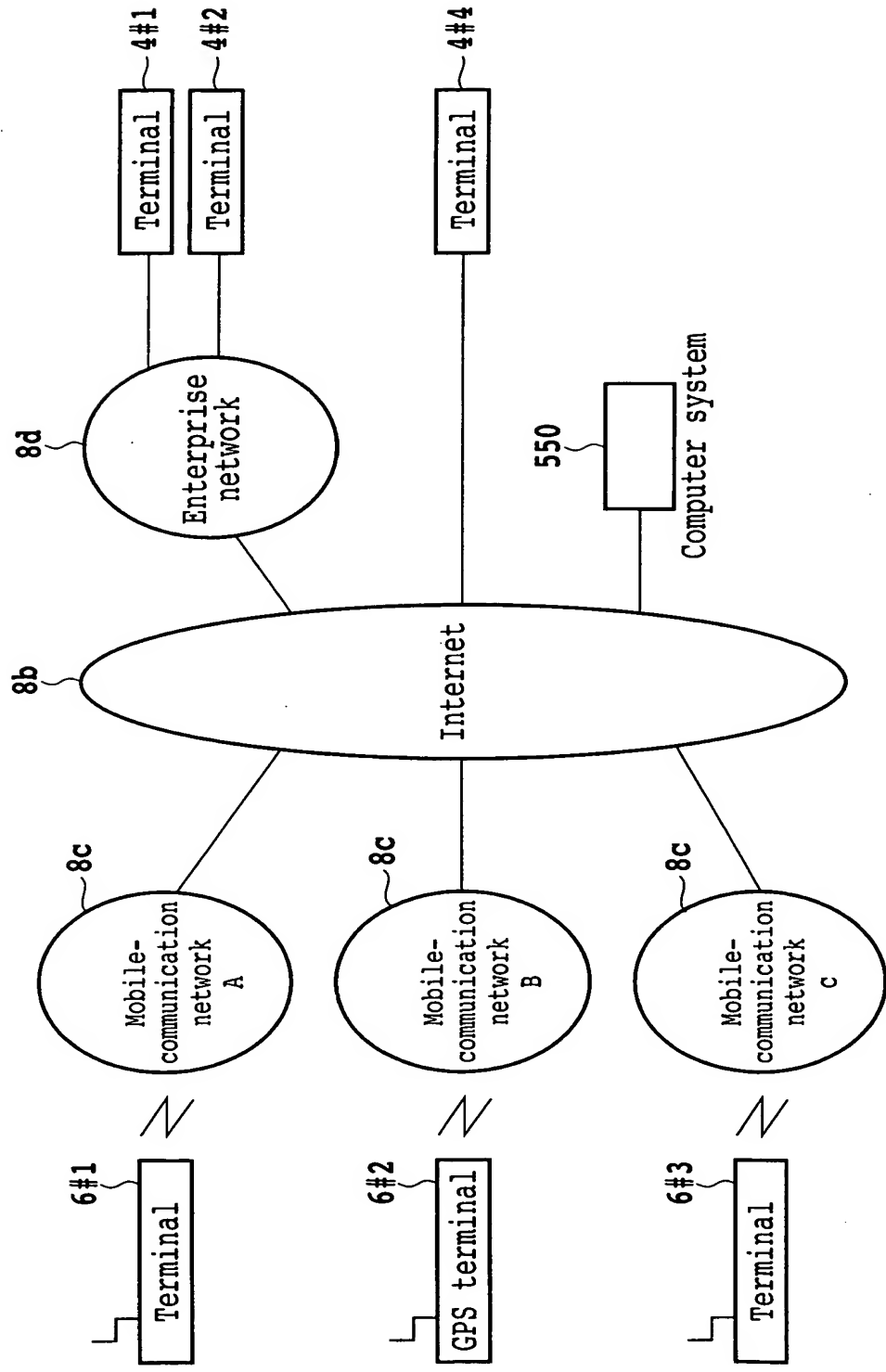


FIG. 65

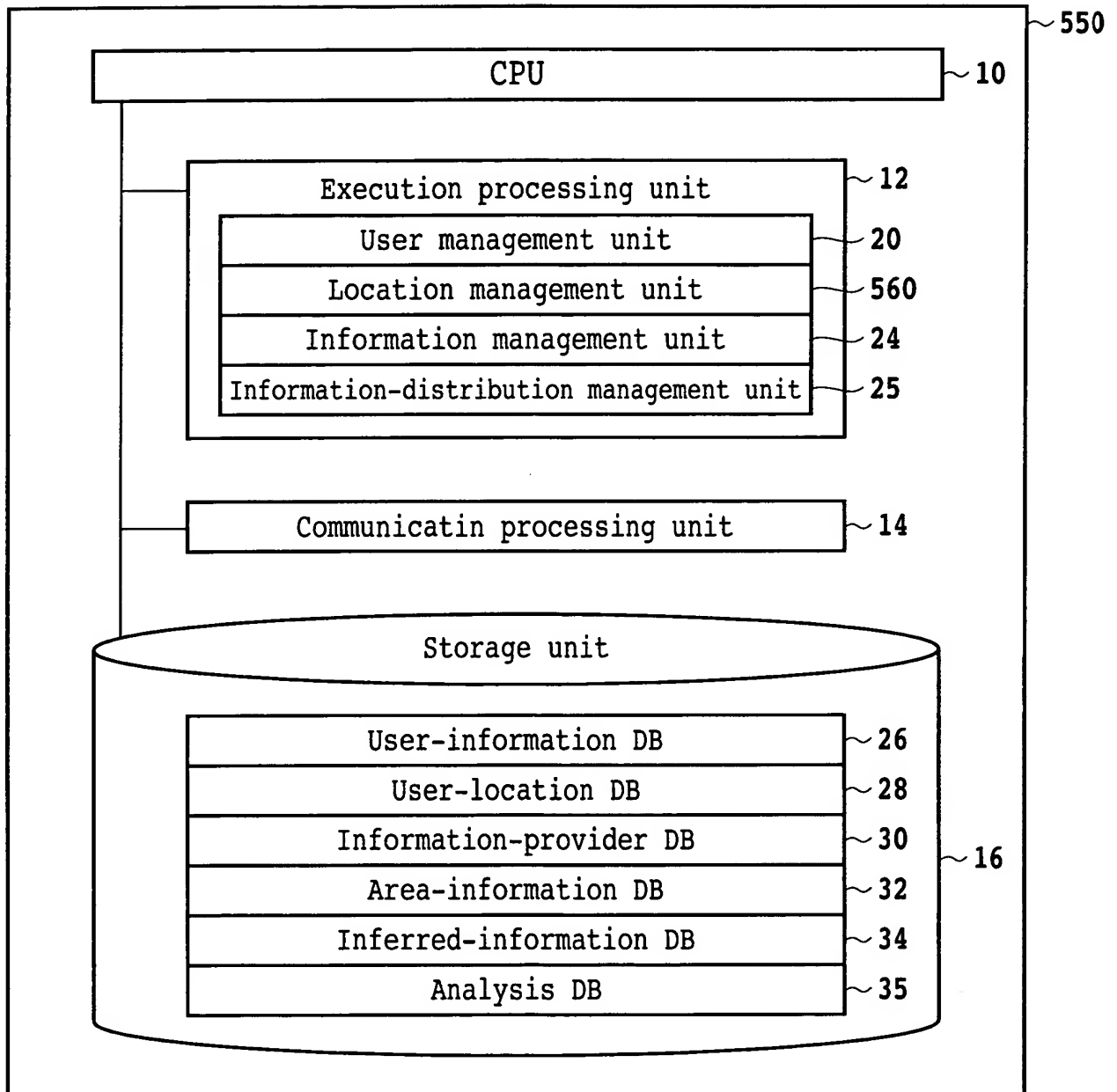


FIG. 66

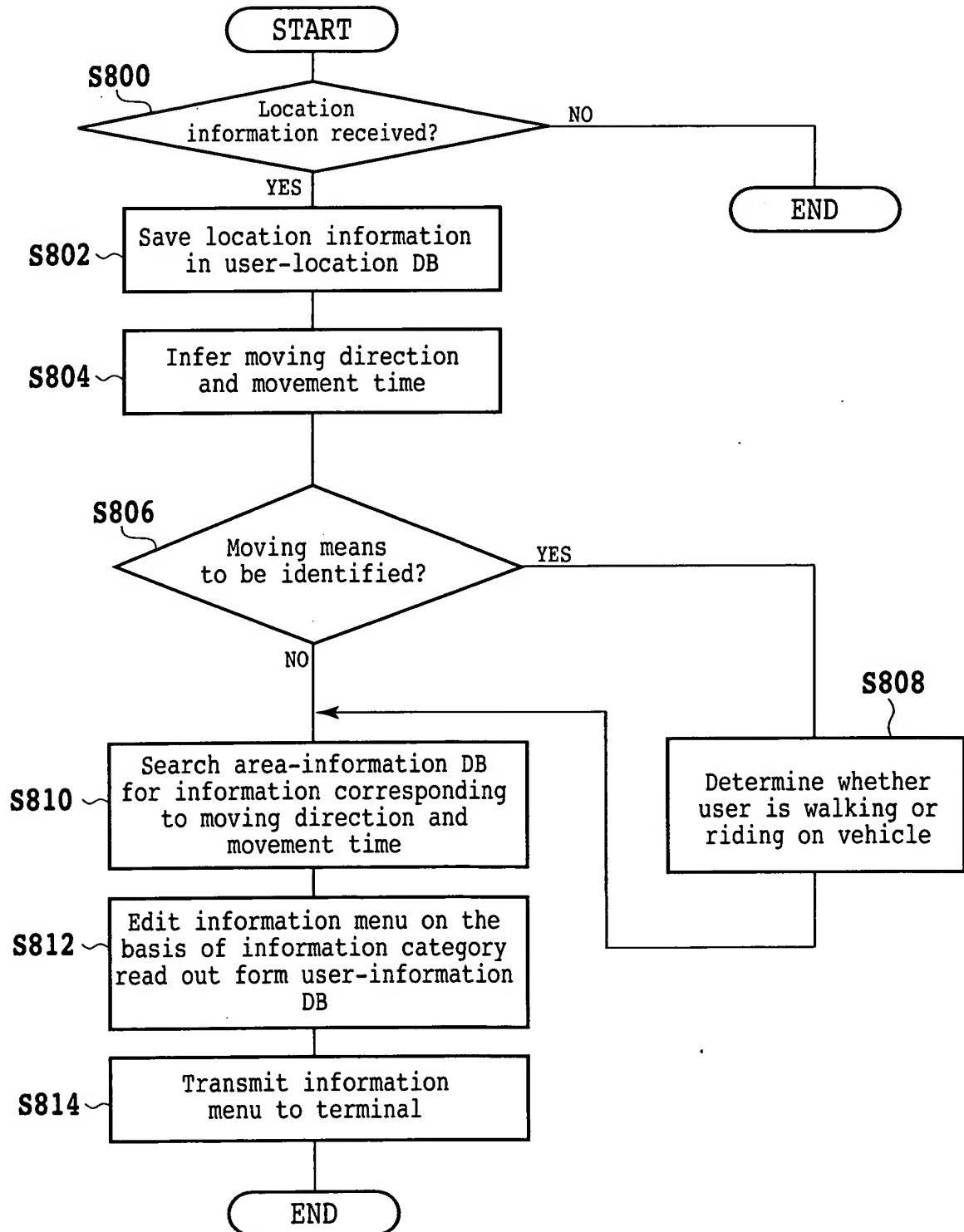


FIG.67

«Detailed information on resort»

Vicinity of Nakahara beach

- 1 information on parking lots
- 2 information on seaside cottages
- 3 information on restaurants

SERVICE HELP

Detailed-information screen

FIG.68

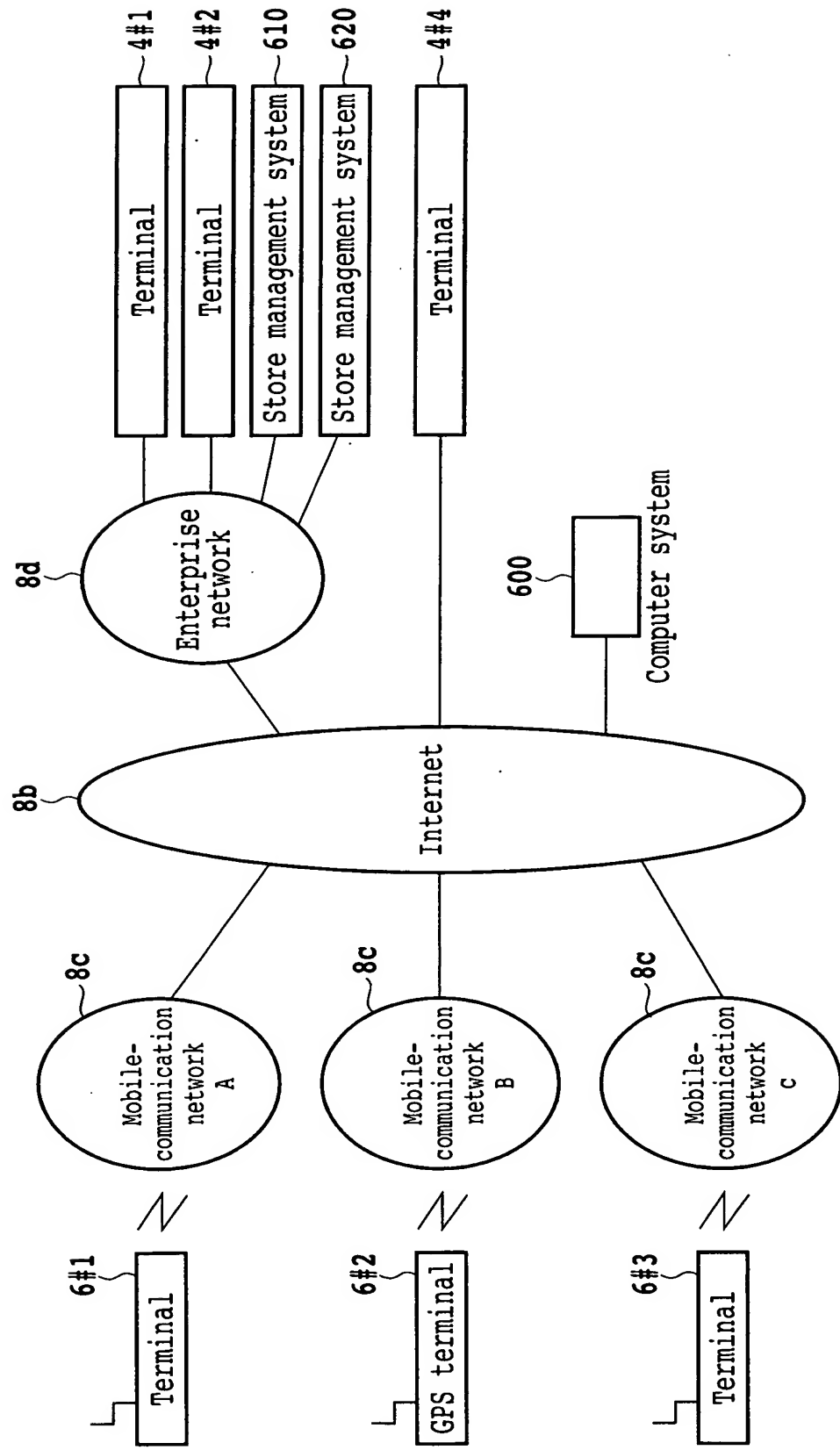


FIG. 69

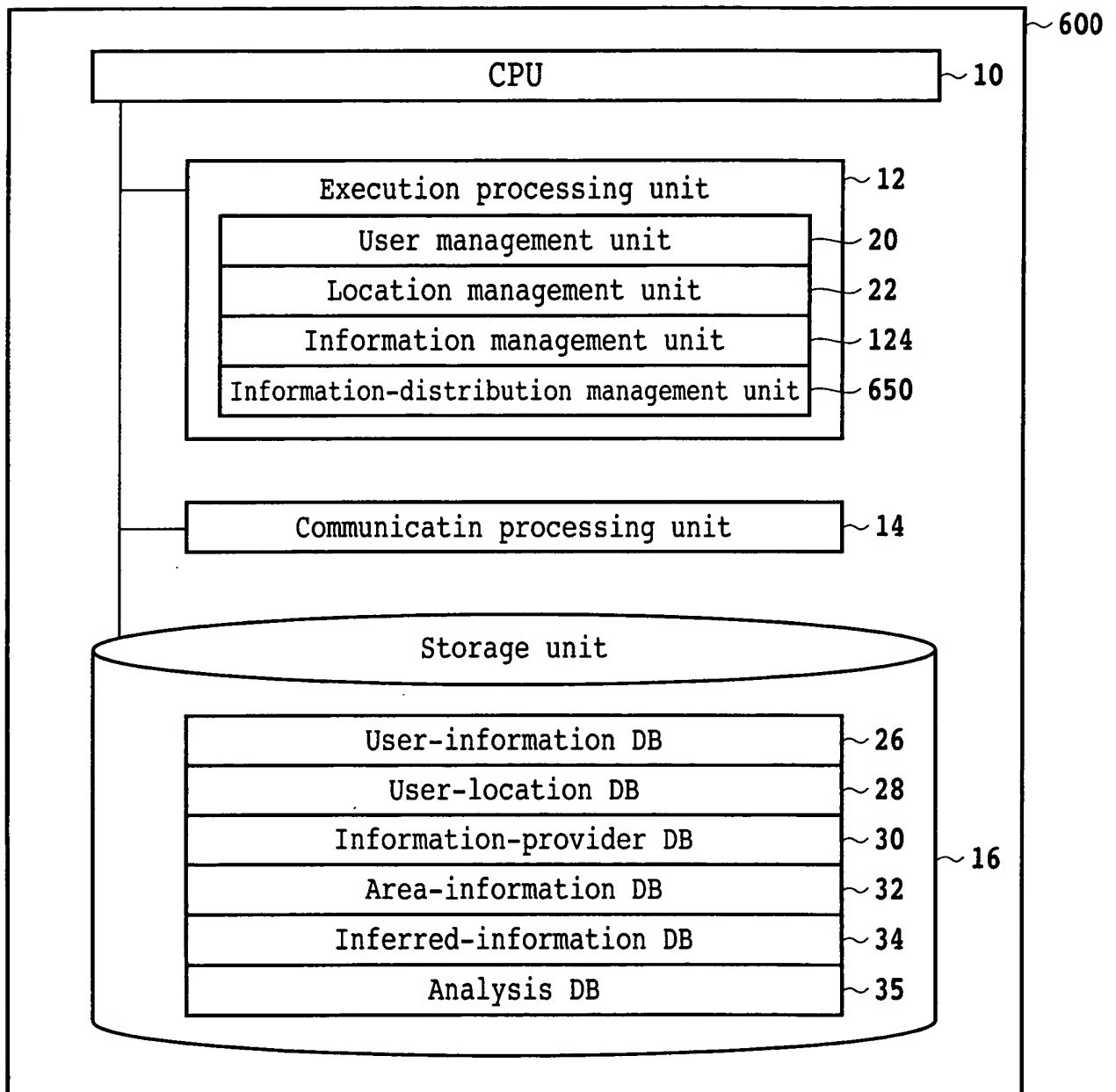


FIG. 70

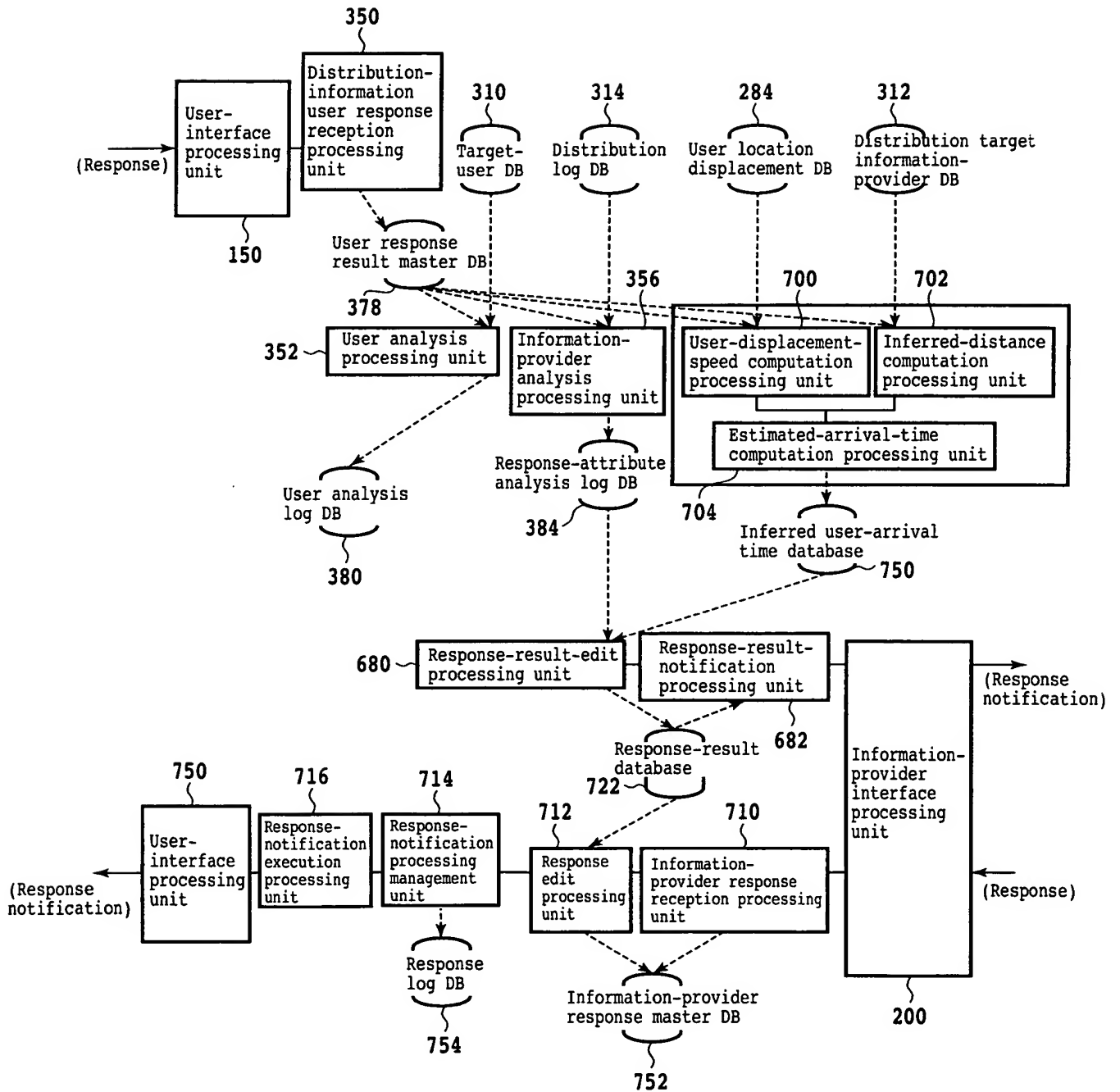


FIG. 71

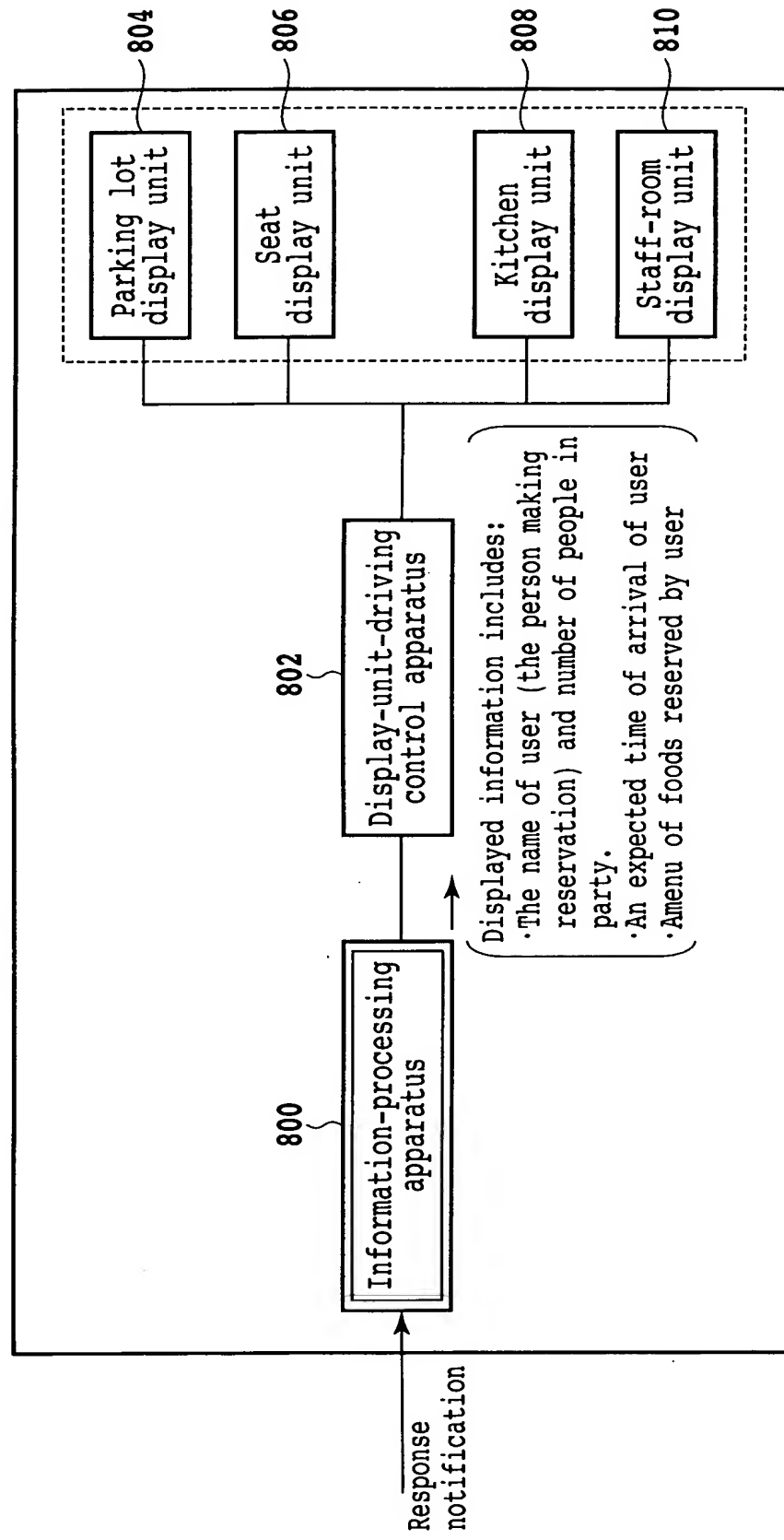
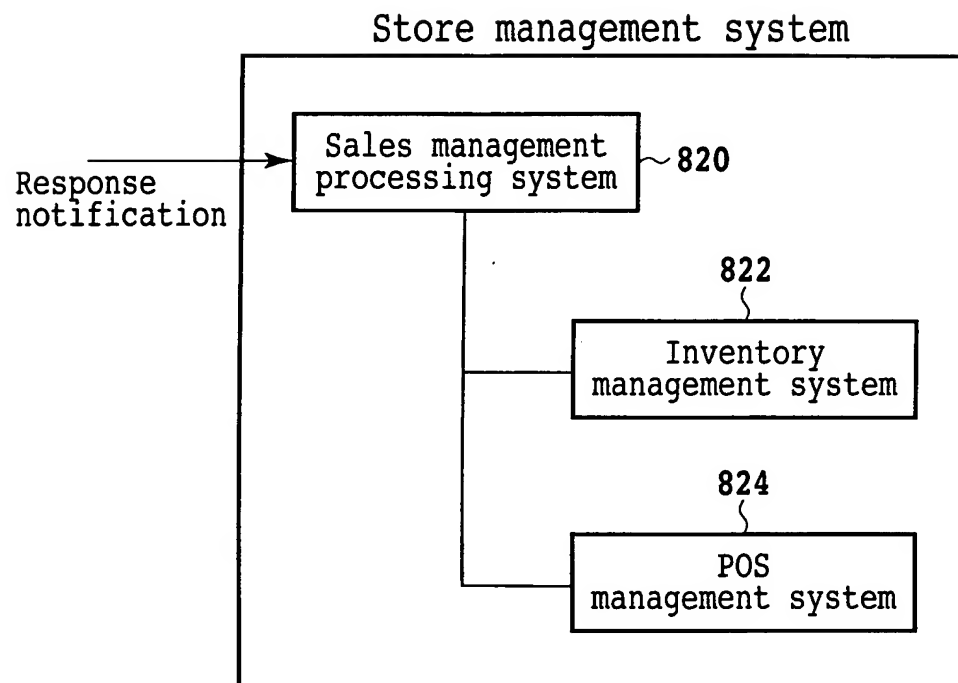


FIG. 72



Information-provider
terminal

